CELLULAR TELEPHONE HACKERS' GUIDEBOOK

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CELLULAR TELEPHONE

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***** NOTICE *****

The information in this manual is intended to be used as an educational guide for those seeking technical information about Cellular Mobile Telephone (CMT) operation.

While the information in this manual is meant to serve as a guide for cellular phone vulnerabilities, keep in mind that it is against the law to modify a cellular phone for fraudulent use. The law states that no person shall intercept or receive, or assist in intercepting or receiving, any communications service offered over a cellular telephone frequency unless specifically authorized to do so by a local telephone company or as may otherwise be specifically authorized by law.

Therefore, it is the sole responsibility of the user of this manual to conform to the rules and regulations of both Federal and State government in the use of the information contained herein. It is the responsibility of the user of this manual to arrange and pay for, as necessary, any signals used in testing any of the circuits or information contained herein.

The author accepts no liability or responsibility for the misuse of the information in this manual, or for any modifications made on any cellular mobile telephone.

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CELLULAR SYSTEM OPERATION

General Information

The Cellular Mobile Telephone System is a low-powered, duplex, radio/telephone which operates between 800 and 900 MHZ, using multiple transceiver sites linked to a central computer for coordination. The sites, or "cells" ,named for their honeycomb shape, cover a range of three to six, or more,miles in each direction. Their range is limited only by certain natural or man-made objects.

The cells overlap one another and operate at different transmitting and receiving frequencies in order to eliminate cross-talk when transmitting from cell to cell. Each cell can accommodate up to 45 different voice channel transceivers. When a cellular phone is activated, it searches available channels for the strongest signal and locks onto it. While in motion, if signal strength begins to fade, the telephone will automatically switch signal frequencies or cells as necessary without operator assistance If it fails to find an acceptable signal, it will display an "out of service" or "no service" message, indicating that it has reached the limit of its range and is unable to communicate.

Identification

Each mobile telephone has a unique identification number which allows the Mobile Telephone Switching Office (MTSO) to track and coordinate all mobile phones in its service area. This ID number is known as the Electronic Security Number (ESN). The ESN and Telephone Number are NOT the same. The ESN is a permanent number engraved into a memory chip called a PROM or EPROM, located in the telephone chassis.

This number cannot be changed through programming as the telephone number can, although it can be replaced. Each time the telephone is used, it transmits its ESN to the MTSO by means of DTMF tones during the dialing sequence. The MTSO can determine which ESN's are good or bad, thus individual numbers can be banned from use within the system.

Cell Switching

Cell site switching is done automatically by the MTSO. The MTSO constantly monitors signal strength data of both the caller and the receiver. To maintain signal quality, when signal strength begins to fade, the MTSO locates the next best cell site and re-routes the channels to maintain the communications link. The switch takes approximately 300 milliseconds and is not noticeable to the user. All switching is handled by computer, with the control channels telling each cellular unit when and where to switch.

CELL TERMS

A BLOCK / B BLOCK
The blocks of radio frequencies assigned by the Federal Communications Commission (FCC) to the two cellular operating companies servicing each Cellular Geographic Service Area (CGSA).

A / B SWITCH
A switch located on the mobile telephone that allows the user to select which frequency block (carrier) he or she wishes to use. Some telephones have an internal switch that is programmed by the installer to automatically switch from one block to the other when service is not available on the pre-set block.

ACCESS
The fixed monthly charge for access to the cellular system you are connected with.

ACCOLC
Access Overload Class. There is no standard in use within the United States at this time. This system offers priority depending on how it is selected in the event of system overload. Typically set to 0 plus the last digit of the phone number to provide random loading. Originally, when the Federal government began designing cellular systems, they intended to give certain emergency vehicles (such as police, ambulances, and Fire Departments) codes that would allow them priority over other subscribers, to communicate during emergencies.

ACTIVATION
A one time initial connection fee to the cellular system which provides the phone number for a new mobile telephone.

AIRTIME
The usage charge which is denoted on the billing statement as "peak" or "off-peak" airtime.

ALTERNATE LOCK (ALTERNATE LOCK CODE)
A three-digit lock code to be used with the partial lock feature. This feature is active only with GE Carfone models CF-2000 and CF-2500.

ANI
Automatic Number Identification. A provision of the billing number associated with the line or trunk from which the call originated.

AUTHORIZED AGENT
A company designated or licensed by a cellular operator to market cellular service and equipment.

AUTHORIZED USER
Any person, firm or corporation that is authorized by the carrier to utilize cellular service.

AUX 0 or 1
A one indicates that the auxiliary signal for the horn relay is enabled. An external adaptor must be used for this feature.

BOC
Bell Operating Company. Including:
- Bell Telephone Company of Pennsylvania
- Chesapeake and Potomac Telephone Company
  (Maryland, Virginia, West Virginia)
- Diamond State Telephone
- Illinois Bell Telephone Company
- Indiana Bell Telephone Co., Inc.
- Michigan Bell Telephone Company
- Mountain Bell
- Nevada Bell
- New England Telephone
- New Jersey Bell Telephone Company
- New York Telephone Company
- Northwestern Bell Telephone Company
- Ohio Bell Telephone Company
- Pacific Bell
- Pacific Northwest Bell Telephone Company
- South Central Bell Telephone Company
- Southern Bell Telephone and Telegraph Company
- Southwestern Bell Telephone Company
- Wisconsin Bell, Inc.

BUSY, NO ANSWER
(See CALL DIVERSION)

CALL DIVERSION
This is a cellular telephone system feature that allows calls to be transferred from the mobile phone number to another number when the cellular number is busy or does not answer. The incoming call rings first at the mobile phone, allowing the customer to answer if desired. If unanswered, it will transfer to the pre-programmed number the cellular user designated it to.

CARRIER ACCESS CODE
The code dialed by the BOC customer which may be used to originate FGO calls using a single dial tone operation.

CELL
A geographic area that is a subdivision of the entire metropolitan coverage area. Each cell has a cellular tower which transmits and receives cellular telephone signals (radio waves) in its own limited coverage area. CELL-SITE The physical location where the cellular antenna is constructed.

CELLULAR OPERATING SYSTEM
A group of cells connected to a single mobile telephone switch. The system utilizes advanced computer technology and switching equipment to monitor signal strength and to switch calls from tower to tower ("hand-off") without the mobile telephone dropping the call.

CELLULAR SYSTEM
A high-capacity land/mobile radio system in which an assigned frequency band is divided into discrete channels that are assigned in groups to cells covering the Cellular Geographic Service Area (CGSA). The discrete channels can be reused in different cells within the same service area. Calls are "handed-off" automatically from a channel in one cell to a different channel in an adjacent cell as the mobile unit moves across cell boundaries within the CGSA.

CGSA
Cellular Geographic Service Area. A term used to describe the geographic area approved for cellular radio systems. CGSA's are usually made up of multiple counties and often cross state lines.

CGSA RESTRICTION
Calls outside the cellular geographic service area are prevented. This restriction is an option that is available to subscribers in most cellular cities.

CHANNEL
A communication link through which information is transferred.

CHANNEL SEIZED
The time when a connection is established between the cellular user's mobile equipment and the mobile telephone switching office (MTSO). Channel seizure occurs before the number dialed begins to ring.

CHECKSUM, CHECKSUM ADJUSTMENT

These numbers are calculated automatically after data has been entered into the NAM. The sum of all words in the NAM plus the last two must equal a number with 0's in the last two digits. The mobile telephone checks its own sum and if it does not match, the set assumes that it has been tampered with and will not operate.

CIBER

Cellular Intercarrier Billing Exchange Record. A standardized reporting format used to transfer information on roaming calls between carriers.

CIC

Carrier Identification Code. The IC carrier identification code which is used for access to IC MTS/WATS like service is a set of digits dialed by a caller in addition to, or in lieu of a destination code to designate the IC to be used for that particular call.

CLEARINGHOUSE

A service company that collects and processes roaming and billing information from a number of carriers. It then transfers the compiled data to the proper carriers for credits and billing.

CLICK TONES

Indicates acknowledgment by the cellular system that the cellular system's computer is processing the call.

CMC

Cellular Mobile Carrier - this is the cellular service which the customer has selected.

CONTROL HEAD ROAM LIGHTS

Indicates that the cellular phone is outside the "home" system.

COVERAGE AREA

The geographic area served by a cellular system. That is, the area in which service is available to users of the system. Once the mobile telephone number has travelled outside the coverage area, the mobile telephone will automatically indicate "NO SERVICE."

CROSSTALK

A description of a problem during a call when more than one conversation can be heard.

CUSTOM CALLING PACKAGE
A combination of two or more optional calling features, i.e., call-waiting, three-way calling, call restriction, etc.

DEAD SPOT
An area within a cell where service is not available. This is usually caused by hilly terrain which blocks the signal to or from the cell tower. This can also occur in tunnels and indoor parking garages. Excessive foliage or electronic interference can also cause dead spots.

DIALING PATTERN
The digits required to place local, long distance, or collect calls to your home territory. Dialing patterns will vary due to different types of telephone carrier switching equipment, computer software and the host carrier's credit policies (automatic roaming versus credit card roaming).

DIGITAL
The coding and decoding of information into bits of data representing 1's and 0's which in cellular allows for greater call quality and increased capacity.

DIRECTORY LISTING
Most mobile phone subscribers acquire their mobile telephones with an unlisted number. Some cities offer telephone directory listing as an option. This number would be listed in the white pages of the local telephone directory.

DROPPED CALL
A call terminated by other than the calling or called party.

DTMF
Dial Tone Multi-Frequency (touchtone).

DUAL MODE
The ability of a cellular telephone to use both the analog and digital voice channels in a cellular system.

DUPLEX
Two-way voice communication occurring simultaneously on one line.

DUAL-LINE REGISTRATION
The ability to have two cellular telephone numbers in a single cellular telephone. This allows the user to have service on two cellular systems without "roaming" in a second city or to have one number on the wireline and one number on the non-wireline system. This assures the cellular user of system backup.

EE

End to End signalling. DTMF signals are sent through the lines to signal the end of a conversation. A tone code is also used to access long distance carriers, to signal your answering machine, or to access your voice mail.

ESN

Electronic Serial Number. The unique serial number for each phone sold. The ESN is transmitted each time a cellular telephone places a call. It is used to verify whether a cellular telephone is registered with an authorized cellular service carrier.

FCC

Federal Communications Commission. The federal agency empowered by the U.S. Congress to regulate the cellular mobile phone industry.

FEATURE ACTIVATION

A one-time charge to activate either a single feature or a custom-calling package.

FREQUENCY

The channel spaces on the radio spectrum used to accommodate voice/data transmission, consisting of a combination of bandwidth and radio spectrum allocated to specific types of radio service.

GIM

Group Identification Mark. This is a two-digit number assigned by the cellular carrier which determines roaming rights throughout the system. As cellular systems are upgraded, the GIM will be on line real time, requiring all NAM information,including the Mobile Identification Number (MIN), to be validated before a subscriber is allowed to call outside of their home area.

HA

Horn Alert. O or 1. A 1 in this field tells the cellular phone that this feature is available.

HANDOFF

The procedure by which transmission from one cell is rerouted to the next cell site.

HARDWARE / SUBSCRIBER UNIT

Actual mobile telephone which consists of a control head (handset), transceiver (trunk unit) and an antenna.

HF
Hands Free. 0 or 1. A 1 in this field tells the cellular phone that this feature is enabled.

HANDS-FREE SPEAKERPHONE
An optional equipment device available on most new cellular phone models allowing the user to speak into a small microphone (usually clipped to the sun visor) while leaving the handset in its cradle.

HOME CARRIER
The cellular operating company from which a subscriber is registered with and pays the monthly service charge and usage charges to.

HOST CARRIER
The cellular operating company a subscriber from another cellular system would be billed roamer charges.

HOTLINE
A system restriction that allows a cellular customer to call only one prearranged number. This is an option that is available in most cities.

IMTS
Improved Mobile Telephone Service. An older, conventional mobile phone service which uses only one transmitting tower for a city or area (introduced in 1964).

INCOMING CALL
The call received by a cellular phone.

INCOMPLETE CALL
A call attempt which resulted in a "no answer" or a system busy. Most carriers do not charge for this type of call.

INTERNATIONAL DENIAL
An optional cellular system restriction that prevents the cellular number from making international calls. Some carriers place this restriction on all subscribers using their service.

IPCH
Initial Paging Channel. 334 - wireline systems, 333 - non-wireline systems.

LANDLINE
The term used for an office or home phone.

LANDLINE CHARGE
If the mobile telephone user originated the call from their mobile telephone, the mobile telephone user pays a local, toll, or long-distance charge, in addition to the air-time usage charge, the mobile telephone user pays a local, toll, or long-distance charge. If the mobile telephone user receives a call, the party calling the mobile is paying the landline charge.

LOCAL AIRTIME DETAIL
This cellular telephone carrier option provides a line-itemized, detailed billing of all calls, including call attempts and incoming calls to the mobile. The free non-detailed billing is generally a total summary of all calls.

LOCK CODE
This field is a one - four digit code. It locks the cellular telephone to prevent unauthorized use. The lock code is programmed into the NAM, and is frequently factory set to either 1234 or 00004.

LU
Local Use flag. Occasionally used to initialize approval for local calls. The Cellular carrier insures that local users are registered with a local system. Hackers use the Roaming Technique to avoid this complication.

MIN1
Mobile Identification Number. The telephone number assigned to the telephone by the cellular carrier. If the telephone is brought in, or a new one is purchased, the cellular service assigns this number for both billing and for receiving calls. 7 or 10 digits in length.

MIN2
The area code of the cellular phone number.

MIN MARK
Can be 0 or 1. The home station sends extended address data upon origination and page response.

MOBILE NUMBER
The telephone number provided by the cellular carrier to a single cellular telephone.

MOBILE ORIGINATED
Calls placed by a mobile telephone user.

MOBILE TERMINATED
The term used to describe a call where the destination of the call is a mobile telephone.

MOBILE UNIT
The cellular telephone equipment installed in a vehicle. It consists of a transceiver, control head, handset and antenna.

MTSO
Mobile Telephone Switch Office. The heart of the cellular system where all of the cells, towers, computer and telephone switch equipment are linked to the landline telephone system.

NAM
Numeric Assignment Module. Small, programmable, read-only memory, used to store data used by cellular telephones, such as ID, phone number of unit, area phone codes, lock codes, model ID's, other various model ID's, carrier ID, operating data, and other miscellaneous data.

NO INCOMING CALLS
A carrier restriction that prevents incoming calls to the assigned cellular number. Only outgoing calls are permitted. This is an optional feature.

NIGHT RATE
The per minute airtime rate. Most cities have peak and off-peak airtime. Night rate is the lowest airtime charge per minute available.

NPA RESTRICTION
A telephone industry abbreviation for area code. Calls outside the same area code as the cellular number are not allowed. This is an optional feature available in most cities.

OFF-PEAK RATE
The per minute airtime rate for using the cellular system in the off-peak time period.

OPERATOR ASSISTED DENIAL
A cellular system restriction that prevents the cellular mobile user from making any calls that require operator assistance, i.e., collect or third party calls. Most cellular systems offer this as an option.

OPTIONAL FEATURES
Custom-calling features.

PEAK RATE
The per minute airtime rate for using the cellular system during the peak, busy time of day business hours. The peak rate is usually higher than off-peak rates.

PORTABLE UNIT
Cellular telephone that can be used outside a vehicle and operated from a miniature transceiver and battery power. Some models are hand-held units and others are transportable.

PS
Preferred Service. 1 - non-wireline systems, 0 - wireline services.

RECIPROCAL AGREEMENTS
Also called Intercarrier Roaming Agreements. An agreement between two carriers that allows the respective customers of the two carriers to use each others' systems automatically, without the necessity of registering as roamers.

REP
Repertory dialing. Speed dialing. Some phones are capable of storing 100 numbers.

RESELLER
A company which purchases a block of cellular numbers from a cellular carrier for resale to its customers.

ROAMER
A cellular mobile user who travels outside their home service area and then uses cellular telephone service an another cellular system.

ROAMER ACCESS NUMBER
Also known as the Roamer Port Number. The ten-digit number used by someone calling a mobile number while that individual is in another cellular city outside their home service area. This number connects the caller to the MTSO, upon which the calling party will hear a computer tone. After the tone, they dial the complete ten-digit mobile phone number they are trying to reach. The cellular switch will transmit your call to all the cells in the system. When a cell locates the number dialed, the call is complete.

ROAM INDICATOR
A signal on the cellular telephone that lights or indicates the presence of a cellular transmission other than the home cellular company. To use the phone on an opposing system in a visited city, the user will have to reset the "A/B" switch.

ROAMING
The ability to place cellular calls when traveling in other cities. The cellular phone user is, in effect, "borrowing" another cellular system.

SCM
Station Class Mark. Identifies the phone as either a hand-held or transportable/fixed cellular phone. SCM is determined by the transmit power of the phone (0.6watts for hand-held, 3.0w for transportable/fixed).

SERVICE CHARGE
The fee for changing cellular telephone number, changing the ESN, replacing a stolen phone, changing optional service features and other functions.

SIDH
Home System Id. Code used to identify the Home system where the cellular telephone is registered. (See the HOME SYSTEM ID LISTING.)

SMSA
Standard Metropolitan Statistical Area. The FCC is in the process of licensing two cellular carriers to operate in each of the 300 largest SMSA's in the U.S. The SMSA is usually the same as the corresponding CGSA.

SID NUMBER
System Identification Number. The code number assigned to each carrier to identify that system electronically.

SUBSCRIBER
A person, company or organization that uses cellular telephone service.

TARIFF
A legal document filed with a state public utilities commission agency that describes rates, terms and other conditions under which a cellular provider will make cellular service available to the public.

THREE-WAY CALLING
A cellular system feature that provides the ability to have a conference call from the cellular phone. The cellular user may connect with two other phone numbers for a "three-way" conversation.

TOLL RESTRICTION
Calls that would result in toll or long-distance charges to the cellular are prevented. This may also restrict roaming. This in an option with the cellular carrier.

USAGE
The airtime used on a cellular phone, that is, the time used on the cellular system.

WIRELINE, NON-WIRELINE
Also known as BOC (Bell Operating Companies). The cellular telephone service company operating on the B frequency in an SMSA. Non-wireline, also known as "A" company or alternate carrier to the wireline.

ZIF, ZIF SOCKET
Zero Insertion Force. ZIF sockets do not require a lot of force, or soldering, to be inserted. These are generally used so that chips can be replaced at will.

THE NUMERIC ASSIGNMENT MODULE (NAM)

A Numeric Assignment Module, or NAM, is a programmable, read-only-memory (PROM). The NAM holds a limited amount of data, usually only 128 or 256 bits. NAM's used are typically made by either NEC or Signetics. Common chip numbers are 82S23, 82S123 or equivalent. Other NAM's are manufactured by National Semiconductor, Fujitsu, Texas Instruments, AMD and others. The NAM is actually a 32-word by 8 bit PROM which is programmed with a PROM programmer. The 32x8 PROM (256 bits, 32 Word by 8 Bit) bits are like fuses. A programmer will trigger certain fuses within the NAM in order to give the phone a unique identity and certain options.

NAM's are easy to purchase. Only the number of the chip is needed to buy one. Consulting the latest issue of an IC MASTER is one way to determine what's inside the chip and who distributes it.

The NAM is used to store the Mobile Identification Number (MIN), Lock Code, the Home System Identification number (SIDH), and various other system data. From the beginning address of the NAM, 00, you will find the System Identification Home number, or SIDH. Each market allows for two systems. These two digits are even for the wire-line and odd for the non-wireline.

There are two kinds of NAMs used in cellular telephones: TRI-STATE" and "OPEN COLLECTOR." It is mandatory to identify the type of NAM in your cellular telephone before attempting to replace it. After it has been identified, any of the electronic supply companies should be able to supply a replacement. A TRI-STATE NAM can be used in over 95% of the cellular telephones on the market today containing replaceable NAM's.

*** The NEC cellular series will only accept tri-state NAM's ***.

To identify the NAM chip compare the numbers in the READILY AVAILABLE NAM TYPES table to the various chips on the circuit board for a match. The NAM chip is usually factory mounted on a ZIF socket.

*** Motorola handheld phones, require special NAM's. Try calling the cellular phone stores in your area. ***

READILY AVAILABLE NAM TYPES

NAM Brand	Open Collector Part Number	Tri-State Part Number
AMD	AM27LS18	AM27LS19
Fujitsu	MB7056	MB7051
Harris	HM7602	HM7603
MMI	53/63S080	53/63S081
MMI	53/6330	53/6331
NSC	DM54S188	DM54S288
NSC	DM82S23	DM82S123
TI	TBP38SA030	TBP38S030
TI	74S188 (try NATIONAL SEMICONDUCTOR)	74S288 (the most common)

PROGRAMMING THE NAM

NAM's are generally mapped the same in all cellular phones. Codes such as Mobile Id Numbers (MIN1, MIN2), Home System Id (SIDH), Access Overload Class (ACCOLC), Group Identification Mark (GIM), Electronic Serial Number (ESN), and options are programmed into the NAM. Dealers usually charge between $20-50 to program your phone. Use the Programming Instructions in this manual once, and it has paid for itself in programming savings alone.

REFER TO THE PROGRAMMING INSTRUCTIONS SECTION FOR YOUR PARTICULAR PHONE.

Hackers often change only a few of the last four digits of the MIN. Ex: a legitimate 708/751-6789 could be changed to 708/751-6778.

FORMAT MAP FOR NAM

MOST		BIT SIGNIFICANCE				LEAST	HEX ADDR
0		SIDH(14-8)					00
		SIDH(7-0)					01
LU	0	0	0	0	0	MIN	02
A/B	RI	MIN2(33-28)					03
	MIN(27-24)			0	0	0	04
0	0	0	0	MIN(23-20)			05
		MIN1(19-12)					06
		MIN1(11-4)					07
	MIN1(3-0)			0	0	0	08
0	0	0	0	SCM(3-0)			09
0	0	0	0	0	IPCH(10-8)		0A
		IPCH(7-0)					0B
0	0	0	0	ACCOLC(3-0)			0C
0	0	0	0	0	0	PS	0D
0	0	0	0	GIM(3-0)			0E
LOCK DIGIT 1				LOCK DIGIT 2			0F
LOCK DIGIT 3				LOCK DIGIT 4			10
EE	0	0	0	0	0	REP	11
HA	0	0	0	0	0	HF	12
	SPARE LOCATIONS CONTAIN ALL ZEROS						13
	SPARE						14
	SPARE						15
	SPARE						16
	SPARE						17
	SPARE						18
	SPARE						19
	SPARE						1A
	SPARE						1B
	SPARE						1C
	SPARE						1D
	NAM CHECKSUM						1E
	NAM CHECKSUM						1F

PS:PREF SYST EE:END-TO-END SIGNALING HA:HORN ALERT
LU:LOCAL USE REP:REPERTORY HF:HANDS FREE

WHAT ABOUT THE ELECTRONIC SERIAL NUMBER (ESN)?

An Electronic Serial Number, or ESN, is the unique, 32-bit, eleven-digit serial number for each cellular telephone sold. The ESN is transmitted each time a cellular telephone places a call. It is used to verify whether a cellular telephone is registered with an authorized carrier. A dealer needs the ESN is order to restore the service on a used phone.

The first three numbers are the manufacturer's decimal code. The fourth and fifth are reserved, and may contain any digit, zero through nine. The remaining six numbers are the decimal serial number for each individual phone.

1 2 3	4 5	6 7 8 9 10 11
Manufacturers ESN code	Reserved 0-9	Decimal serial number of phone

The decimal serial number can occasionally be found within the documentation provided with a new cellular phone. In some cases, the ESN is engraved on the telephone itself, but this is not universal with all manufacturers.

If a cellular telephone has been disconnected for any reason, the ESN must be provided in order for service to be reestablished with the Carrier. Each manufacturer assigns their own ESN to every mobile telephone. Therefore, a single ESN may be duplicated by one or more manufacturers. A hacker may bypass this system by altering other system information and leaving the particular telephone's ESN unaltered.

*** CHANGING the ESN is THE ONLY SURE WAY to minimize any risk of getting caught. ***

The ESN is assigned at the factory, and in almost all cases, is the only element that cannot be altered by use of the programming sequence without removing it and replacing it with a new chip. The ESN chip is always factory soldered and occasionally epoxied onto the circuit board to reduce tampering. A decent hacker will be able to remove it and install a ZIF (zero insertion force) socket in its place. The ZIF socket makes it easy to replace the ESN chip at any time. The NAM chip is usually factory installed in a ZIF socket.

HOW TO LOCATE THE ESN...

Several methods are available for locating a cellular telephone ESN. These methods are as follows:

1. The ESN is normally located on a PROM. The ESN is intentionally made to be unerasable on most cellular phones to prevent the fraudulent use of the phone. The PROM is programmed and installed at the factory with the security fuse blown in order to prevent tampering. The ESN code on a PROM may be read by removing the PROM from the cellular telephone and placing it in a PROM reader to obtain a memory map of the chip. The ESN PROM is distinctive because of its size and package. The ESN PROM will have between sixteen and twenty-eight leads, in a square or rectangular package. This is a BIPOLAR PROM. Most cellular telephones will accept the National Semiconductor 32x8 PROM, which cannot be reprogrammed. If a hacker knew the ESN of a particular cellular telephone, it is possible to trace the memory map by installing the PROM in a reader and obtaining a fuse map by use of the READ MASTER switch of the PROM programmer. Many PROM programmers contain a VERIFY and COMPARE switch to provide a comparison of one PROM's programming with another.

   This may be a complicated task for the first-timer, so it is recommended that a cellular telephone (bag phones are best) is purchased strictly for the purpose of dismantling it in order to locate the ESN. This will probably destroy the telephone, but will provide valuable experience.

   *** Some of the newer hand-held phone manufacturers (Motorola) are changing to VLSI (very large scale integration) which combine several other chips with the ESN chip, preventing hackers from programming those chips. Bag phones are almost always an easy hack. ***

2. Hire a "Cellular Consultant." A consultant is someone who works as an installer and/or programmer, and would be able to show the user where the ESN is located.

3. Get in touch with a local cellular telephone servicer and simply ask for their help in identifying the memory chips in the telephone. Most technicians will help without too much difficulty.

4. As a last resort, remove each memory chip and place it in a PROM reader. When one is found that registers a reading, the ESN has been located.

5. Take the phone to a cellular service provider and ask them to provide the ESN. They are often requested for insurance purposes, and can be supplied easily enough by use of a Cellular Service Monitor. The monitor reads the transmission from the telephone and indicates the specific ESN.

6. The ESN is also normally provided with the original user information, if available.

7. ESN chips may be identified by some of the following manufacturers' markings:

AMD, AMPS, DM, HARRIS, HM, MOTOROLA, MB, MMI, NS, NSC, TBP, TI.

*** ESN Readers are also available for personal purchase. See the BUYERS GUIDE in the back of this manual for further information on Personal Readers. ***

REPLACING THE ESN

Now that you've located the ESN, how do you replace it? The ESN needs to be unsoldered in order to remove it.
The user should be familiar with soldering techniques, extra care must be taken not to touch any of the surrounding connections, solder joints or chips. Chip pullers and soldering tools are available from Radio Shack. If the chip is removed improperly, it will permanently damage the cellular telephone. Removing the ESN will render the telephone inoperative.

The following steps will aid in ESN removal:

1. Unscrew and remove the entire PC board containing the ESN. This is done to prevent inadvertent damage to the rest of the unit during the remaining process.

2. Once you have determined which is the correct ESN chip, it is wise to make a sketch of it to insure that it is replaced in the proper place and direction.

3. Using extreme caution, unsolder and remove the chip from the board.

4. Solder in a ZIF (Zero Insertion Force, available from Radio Shack) socket to provide for easier removal and placement of additional chips.

*** WARNING: No retailer, manufacturer or servicer will work on a unit in which the ESN has been removed. In addition, it is their responsibility to notify the proper authorities of such tampering. ***

5. Once the ZIF socket has been installed, reinsert the ESN and attempt to place a call. If the call is successfully completed, the ESN has been properly removed and replaced. If the call does not go through, recheck the leads on the ZIF socket for proper installation.

6. Insert the ESN in a PROM reader to be sure it gets a reading. Use the search mode to identify the Manufacturer's Serial Number, in order to identify the first three addresses of the ESN on the PROM where reprogramming will be done.

PROGRAMMING THE ESN

1. Insert the ESN in a PROM programmer to be sure it gets a reading. Use the search mode and "read master" to identify the Manufacturer's Serial Number, in order to identify the first three addresses of the ESN on the PROM fuse map where programming the new chip will be done. Record the locations of the ESN. Use the "edit buffer" command to change one number of the ESN. A new PROM is then programmed with the PROM programmer. Instructions will come with the programmers.

2. The entire Prom reading/emulating/programming process is relatively fast when a personal computer is available. This will allow the use of an EPROM emulator and allow you to program (burn) PROM chips directly from the computer.

3. The Installation of the ZIF socket makes it possible to insert an EPROM Emulator into the socket. The hacker will often try a hundred or more ESN codes before finding a good one. Use of an EPROM Emulator will allow the hacker to load ESN codes without burning EPROMs until a good code is found and will save the hacker hundreds of chips with the wrong codes programmed into them.

4. Use the emulator and the code read from the original chip, recode a new PROM. Change the original ESN code by one number. Load the emulator and try making a phone call. Keep trying this process until a call is completed. The entire process is often completed in less than one hour.

5. A programmer for use with a personal computer will allow the hacker to store codes for easy editing and reprogramming new chips when the Cellular carrier blocks the particular ESN is use. Use the working ESN code from (4) above to burn a new PROM and insert into the ZIF.

   *** Most smart hackers also change the SIDH and MIN on the NAM in order minimize the possibility of being caught. ***

6. Fully reassemble phone.

   *** Hackers will always be smart about who they are calling and any traceable calling habits. ***

Some other manufacturer's cellular telephones are privately labeled for certain companies. However, when reprogramming a cellular telephone, any valid ESN code will work on any phone. The numbers listed in MANUFACTURERS' ESN CODES are all Valid ESN Codes.

MANUFACTURER'S ESN CODES

Manufacturer	Decimal	Hex Code
Alpine Electronics	150	96
AT & T	158	9E
Audiovox-Audiotel	138	8A
Blaupunkt (Bosch)	148	94
Clarion Company	140	8C
Clarion Manufacturing Co.	166	A6
CM Communications	153	99
Di-Bar Electronics	145	91
E.F. Johnson	131	83
Emptel Electronics	178	B2
Ericsson	143	8F
Ericsson GE Mobile	157	9D
Fujitsu	133	85
Gateway Telephone	147	93
General Electric	146	92
Goldstar Products	141	8D
Harris	137	89
Hitachi	132	84
Hughes Network Systems	164	A4
Hyundai	160	A0
Japan Radio Co., Ltd.	152	98
Kokusai	139	8B
Mansoor Electronics	167	A7
Mobira	156	9C
Motorola	130	82
Motorola International	168	A8
Mitsubishi	134	86
Murata Machinery	144	90
NEC	135	87
Nokia	165	A5
Novatel	142	8E
OKI	129	81
Panasonic (Matsushita)	136	88
Philips Circuit Assemblies	171	AB
Philips Telecom	170	AA
Qualcomm	159	9F
Samsung Corp.	176	B0
Sanyo	175	AF
Satellite Technology Services	161	A1
Shintom West	174	AE
Sony Corp.	154	9A
Tama Denki Co.	155	9B
Technophone	162	A2
Uniden Corp. of America	172	AC
Uniden Corp. of Japan	173	AC
Universal Cellular	149	95
Yupiteru Industries	163	A3

THE HACKERS' BEST SCAM - THE ROAMING TECHNIQUE

Cellular telephones have a ROAM mode, which indicates that the user is in an area other than his or her "home" area. This ability allows the user to place a call in an area away from his own, such as another state, and allows the phone to be used when traveling or commuting. However, it is impossible for the local MTSO to know when an "outsider" is on-line in their area, therefore, incoming calls are not available when ROAMing unless a Call Following feature is activated by the cellular carrier.

Cellular carriers have common agreements to cross-bill applicable charges, including extra charges for being an "outsider," when a cellular user takes advantage of the roaming capabilities of a cellular telephone.

It is possible for a user to make a call when ROAMing and not be billed. The local area MTSO may put the call through and bill it to the registered user at a later date, only to learn that the caller was using a stolen number. Keep in mind that all call information is recorded and can be traced. It is possible for the authorities to follow up with the "called" party. The calls most frequently followed up on are calls repeatedly made to the same number (the user's home number, family members, friends, etc.) and noticeable trends in calling (calling from the same cell each time, calling at the same time of day, the same area, etc.).

The "ROAMing Technique" is frequently used, due to the fact that carriers normally will not commit to the time and expense of tracing a call to recoup the small amount lost on short calls (less than one percent of these calls are deemed a sufficient loss to be followed up on).

This method requires the NAM be programmed with a fake SIDH (refer to the Home System Identification Codes). This may provide access for a limited time. A smart hacker knows to ignore any message to contact the cellular carrier.

CLONE APPROACH

A cellular Phone can also be reprogrammed to imitate another cellular phone. This is done for two reasons. First, the owner of two cellular phones does not want to pay two individual service charges since he only uses one phone at a any given time. Secondly, a hacker wants to make free phone calls that will be charged to another cellular user. This approach will work until the wrongly charged user reports these charges to the carrier at the end of the month when they get their bill. Called numbers will probably be investigated for the source.

The entire ESN and NAM (MIN components) are required to accomplish cloning. The NAM parameters of one phone should be programmed into the other. The ESN Prom of the first should be read and programmed into the second. The idea is to make both phones appear to the carrier as the same phone. If an ESN of a particular phone is not known, then a Cellular Service Monitor or ESN Reader will be necessary. Most cellular service centers will have one or you can look in our BUYERS GUIDE.

Only one phone can be used at any given time. Both phones, will try respond to incoming calls. The phone that offers the most powerful link will be connected or break the connection of the other, weaker phone link.

See PROM READING/ PROGRAMMING THE ESN/ PROM EMULATION

HOME SYSTEM IDENTIFICATION CODES (SIDH CODES)

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Abilene, TX	131	422
Aiken, GA	181	084
Akron, OH	073	054
Albany, GA	241	204
Albany, NY	063	078
Alburquerque,NM	079	110
Alexandria, LA	243	212
Allentown, PA	103	008
Alton, IL	017	046
Altoona,PA	247	032
Amarillo, TX	249	422
Anchorage, AK	251	234
Anderson, SC	139	116
Anniston, AL	255	098
Appleton, WI	217	240
Asheville,NC	263	246
Ashland, WV	307	---
Athens, AL	203	198
Athens, GA	041	034
Atlanta,GA	041	034
Atlantic City, NJ	267	250
Augusta, GA	181	084
Aurora, IL	001	020
Austin, TX	107	164
Bakersfield, CA	183	228
Baltimore, MD	013	018
Bangor, ME	271	254
Baton Rouge, LA	085	106
Battle Creek, MI	403	256
Beaumont, TX	185	012
Bellingham, WA	047	006
Beloit, WI	217	210
Benton Harbor, MI	277	260
Biddeford, ME	501	484
Billings, MT	279	262
Biloxi, MS	281	264
Binghampton, NY	283	266
Birmingham, AL	113	098
Bishop, CA	1063	---
Bismarck, ND	285	268
Bloomington, IL	455	532
Boise, ID	289	272
Boston, MA	007	028
Bradenton, FL	175	042
Bremerton, WA	047	006
Bridgeport, CT	119	088
Bristol, TN	149	042

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Brownsville,TX	451	434
Bryan,TX	297	280
Buffalo, NY	003	056
Burlington, NC	069	144
Burlington, VT	313	300
Canton, OH	073	054
Casper, WY	301	284
Cedar Falls, IA	589	568
Cedar Rapids, IA	303	286
Champaign, IL	305	532
Charleston, WV	307	290
Charleston, SC	127	156
Charlotte, NC	139	114
Charlottesville, VA	309	292
Chattanooga, TN	161	148
Chicago, IL	001	020
Cincinatti, OH	051	014
Clarksville, TN	179	296
Cleveland, OH	015	054
College Station, TX	297	280
Colorado Sprngs, CO	045	180
Columbia, SC	189	182
Columbus, GA	319	302
Columbus, OH	133	138
Corpus Christi, TX	191	184
Council Bluffs, IA	137	152
Cumberland, MD	321	304
Dallas, TX	033	038
Danville, VA	323	306
Davenport, IA	193	186
Dayton, OH	163	134
Daytona Beach, FL	325	308
Decatur, IL	327	532
Dennison, TX	033	038
Denver, CO	045	058
Des Moines, IA	195	150
Detroit, MI	021	010
Dotham ,AL	329	312
Dubuque, IA	331	314
Duluth, MN	333	316
Durham, NC	069	144
Eau Claire, WI	335	318
Elgin, IL	001	020
El Paso, TX	097	092
Elkhart, IN	549	530
Elmira, NY	283	266
Enid, OK	341	324
Erie, PA	343	326

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Eugene, OR	061	328
Evansville, IN	197	190
Fairbanks, AL	---	1018
Fargo, ND	347	330
Fayettesville, NC	349	100
Fayetteville, AR	607	342
Flint, MI	021	010
Florence, AL	351	334
Florence,SC	377	350
Fort Collins, CO	045	336
Fort Lauderdale, FL	037	024
Fort Myers, FL	355	042
Fort Pierce, FL	037	340
Fort Smith, AR	359	342
Fort Walton Bch, FL	361	344
Fort Wayne, IN	199	080
Fort Worth, TX	033	038
Fresno, CA	153	162
Gainesville, FL	365	348
Gadsden, AL	363	098
Galveston, TX	367	012
Glens FAlls, NY	063	078
Grand Forks, ND	371	356
Grand RApids, MI	021	244
Granite City, IL	017	046
Great Falls, MT	373	358
Greeley,CO	045	360
Green Bay, WI	217	362
Greensboro, NC	095	142
Greenville, SC	139	116
Gulf of Mexico, LA	171	194
--Gulfport, MS	---	264
Gunterville, AL	203	198
Hagerstown, MD	381	364
Hamilton, OH	383	366
Harlingen, TX	451	434
Harrisburg, PA	159	096
Hartford, CT	119	088
Hickory,NC	385	368
HIlo, HI	1161	060
Holbrook, AZ	1027	---
Honolulu, HI	167	060
Houma, LA	387	370
Houston, TX	035	012
Huntington, WV	307	196
Huntsville, AL	203	198
Indianapolis, IN	019	080
Iowa City, IA	389	286
Jackson, MI	391	374

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Jackson,MS	205	160
Jacksonville, FL	075	136
Jacksonville, NC	393	376
Janesville, WI	217	210
Jerseyville, IL	245	586
Johnson City, TN	149	074
Johnstown, PA	039	032
Joliet, IL	001	020
Joplin, MO	401	384
Juneau, AL	---	1022
Kalamazoo, MI	403	386
Kankakee, IL	001	020
Kansas City, KS/MO	059	052
Kennewick, WA	---	500
Killeen, TX	409	392
Kingsport, TN	149	074
Knoxville, TN	093	104
Kokomo, IN	411	080
LaCross, WI	413	396
Lafayette, IN	415	080
Lafayette, LA	431	414
Lake Charles, LA	417	400
Lakeland, FL	175	042
Lancaster, PA	159	096
Lansing, MI	021	188
Laredo, TX	419	402
Las Cruces, NM	097	404
Las Vegas, NV	211	064
Lawrence, KS	059	406
Lawton, OK	425	408
Lewiston, ME	427	482
Lexington, KY	213	206
Lihue, HI	1157	060
Lincoln,NE	433	416
Little Rock, AR	215	208
Long Branch, NY	173	022
Longview, TX	229	418
Lorain, OH	437	054
Los Angeles, CA	027	002
Louisville, KY	065	076
Lubbock, TX	439	422
Lynchburg,VA	441	424
Macon, GA	443	426
Madison, WI	217	210
Manchster, NH	445	428
Mansfield, OH	447	430
Marshall, TX	229	418
Mayaguez	449	432

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Mcallen, TX	451	434
Medford, OR	061	436
Melbourne, FL	175	068
Memphis, TN	143	062
Miami, FL	037	024
Midland, TX	459	422
Millville, NH	---	250
Milwaukee, WI	005	044
Minneapolis, MN	023	026
Mobile, AL	081	120
Modesto, CA	233	224
Moline, IL	193	186
Monroe, LA	463	440
Monterey, CA	527	126
Montgomery, AL	465	444
Moorehead, ND	---	330
Muncie, IN	467	080
Muskegon, MI	021	448
Nashua, NH	445	428
Nashville, TN	179	118
NE Pennsylvania	103	172
New Bedford, MA	119	028
New Brunswick, NY	173	022
New Haven, CT	119	088
New LOndon, CT	119	088
New Orleans, LA	057	036
Newprt News, VA	083	168
New York, NY	025	022
Norfolk, VA	083	168
Ocala, FL	473	348
Odessa, TX	475	422
Oklahoma City, OK	169	146
Olympia, WA	047	006
Omaha, NE	137	152
Orange County, NY	479	486
Orlando, FL	175	068
Ottawa, IL	1177	1178
Oxnard, CA	027	002
Panama City, FL	483	462
Parkersburg, WV	485	032
Pascagoula, MS	487	264
Pasco, WA	---	500
Pensacola, FL	361	120
Peoria,IL	221	214
Petaluma, CA	031	040
Petersburg, VA	071	472
Philadelphia, PA	029	008
Phoenix, AZ	053	048
Pine Bluff, AR	493	208

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Pittsburg, PA	039	032
Pittsfield, MA	119	480
Placerville, CA	---	1080
Ponce, PR	497	082
Portland, ME	499	482
Portland, OR	061	030
Portsmouth, NH	501	484
Poughkeepsie,NY	503	486
Providence, RI	119	028
Provo, UT	091	488
Pueblo, CO	045	490
Raliegh, NC	069	144
Rapid City, SD	511	494
Reading, PA	103	008
Redding, CA	513	294
Reno, NV	515	498
Richland, WA	517	500
Richmond, VA	071	170
Roanoke, VA	519	502
Rochester, NH	501	484
Rochester, MN	521	504
Rochester, NY	117	154
Rockford, IL	217	506
Sacramento, CA	129	112
Saginaw, MI	021	389
Salem, OR	061	030
Salinas, CA	527	040
Salt Lake City, UT	091	094
San Angelo, TX	529	510
San Antonio, TX	151	122
San Diego, CA	043	004
San Francisco, CA	031	040
San Jose, CA	031	040
San Juan, PR	227	218
Santa Barbara, CA	531	040
Santa Cruz, CA	031	126
Santa Rosa, CA	031	040
Sarasota, FL	175	142
Savanna, GA	539	520
Schenectady, NY	063	078
Scranton, PA	103	172
Seattle, WA	047	006
Sharon, PA	089	126
Sheboygan, WI	543	044
Shreveport, LA	229	220
Sioux City, IA	547	528
Sioux Falls, SD	555	540
South Bend, IA	549	530
Spartanburg, SC	139	116
Spokane, WA	231	222
Springfield, IL	551	532

SYSTEM	NONWIRELINE(A)	WIRELINE(B)
Springfield, MO	559	546
Springfield, OH	573	134
Springfield, MA	119	188
St. Cloud, MN	553	534
St. Joseph, MO	059	536
St. Louis, MO	017	046
St. Petersburg,FL	175	042
State College, PA	159	032
Stuebenville, OH	039	032
Stockton, CA	233	224
Stroudsburg, PA	103	172
Syracuse, NY	077	086
Tacoma, WA	047	006
Tallahassee,FL	565	544
Tampa, FL	175	042
Temple, TX	409	392
Terre Haute, IN	567	080
Texarkana, TX/AR	229	550
Toledo, OH	021	130
Topeka, KS	059	552
Trenton, PA	029	008
Tucson, AZ	053	140
Tulsa, OK	111	166
Tuscagoola, AL	577	098
Ukiah, CA	1075	---
Utica, NY	235	226
Vallejo, CA	031	040
Victoria, TX	581	562
Vineland, NJ	583	250
Visalia, CA	153	162
WAco, TX	587	566
Warren, OH	089	126
Washington, DC	013	018
Waterloo, IA	589	568
Wausau, WI	591	570
West Palm Bch, FL	037	024
Wheeling, WV	039	032
Wichita Falls, TX	595	574
Wichita, KS	165	070
Wilkes Barr, PA	103	172
Williamsport, PA	103	576
Wilmington, DE	123	008
Wilmington, NC	599	578
Winston-Salem, NC	095	142
Worcester, MA	007	028
Yakima, WA	601	580
York, PA	159	096
Youngstown, OH	089	126
Yuba City, CA	129	112

--- See Publication Guide for additional SIDH code sources ---

Allstate Cellular *** Phone Distributor ***
2064 North Bush St.
Santa Ana, CA 92706
(714) 547-4663
FAX (714) 547-5089

BP Microsystems
(713) 461-9430 *** Prom Programmers

Bytek Corporation *** Test Equipment, NAM Programmers ***
Instruments System Division
508 N.W. 77th Street
Boca Raton, FL 33487-1232
(407) 994-3520
(800) 523-1565
(407) 994-3615

Cellular Enterprises
(813) 885-7766 *** Cellular Phone Dealer ***

Cellular Phone Services, Inc.
(800) 326-7901 *** Phone Repairs ***

Curtis Electro Devices *** ESN/MIN READERS ***
Mountain View, California
(800) 332-2790
FAX (415) 964-3574

Communication Consultants Co
(818) 901-9711 *** Phone Repairs

Communication Instruments
(800) 288-8223 *** Cellular Service Monitors ***
(213) 322-3666

Incredible Technologies
(708) 437-2433 *** EPROM Emulator ***

Intronics, Inc. *** EPROM PROGRAMMERS ***
Box 13723 for PCs
Edwardsville, KS 66113
(913) 422-2094

JDR Microdevices
(800) 538-5000 *** PROM/EPROM Chips ***

Johnson Radio Communications *** Phone Distributor ***
660 Transfer Road
St. Paul, MN 55114
(612) 645-6471

Magnatech Corporation *** Phone Distributor ***
1005 Parchment Drive, S.E.
Grand Rapids, MI 49506
(616) 942-9548

National Semiconductor
(408) 721-5000 *** EPROM/PROM Chips ***

Needham's Electronics
4539 Orange Grove Ave *** EPROM Programmers ***
Sacramento, CA. 95841
(916) 924-8037

NCI
(800) 669-5167 *** Cellular Phone Supplier ***
(215) 264-5117

TECHNICAL SOLUTIONS
Box 462101 *** EPROM Emulator ***
Garland, TX 75046-2101
(214) 272-9392

TLC ELECTRONICS *** EPROM Emulator ***
2499 Rice St. Ste 17
St. Paul, MN 55113
(612) 481-0287

PUBLICATIONS

Communications Week
CMP Publications
600 Community Drive
Manhasset, NY 11030
(516) 562-5000

Cellular Business Magazine
(913) 888-4664
Covers all the latest Cellular industry news. Advertisements that may be helpful for the hacker.

Quantum Publishing
Box 310
Mendocina, CA 95460
(707) 937-4488
(707) 937-4489
Cellular Communications Almanac - contains manufacturers, agents, system operators, maps, many contacts.
The Cellular Bible

Cellmark Publishing
Box 2619
Dearborn, MI 48123
(313) 561-3339
North American Official Cellular Users Guide - SIDH codes, coverage maps, Roamer Instructions.

Communications Publishing Co.
Box 500
Mercer Island, WA 98040-0500
(206) 232-3464
The Cellular Telephone Directory - SIDH codes, coverage maps, area carriers

NUTS and VOLTS MAGAZINE
(800) 783-4624
Contains a plethora of hardware/technical resources for the serious hacker.

FEDERAL COMMUNICATIONS COMMISSION

The FCC is responsible for regulation of all Cellular Frequencies, Manufacturers ESN codes, SIDH codes, dealers, manufacturers, Equipment suppliers and other aspects of the Cellular Industry. All this information is available to the public under the Freedom of Information Act. Anything new to the Cellular Industry they will know first. The FCC has the largest collection of Cellular Communications information in the world.

Send information request to:

FEDERAL COMMUNICATIONS COMMISSION
1919 M st. N.W.
WASHINGTON, D.C. 20554

or call: (202) 632-7000

PROGRAMMING INSTRUCTIONS-INDEX

MAKE	MODEL
ACT	9500
ALPINE	9510
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ALPINE	9530
ALPINE	9550
ALPINE	9550 portable
AMERICEL	
ANTEL	LNX-100/200
ANTEL	NTX-110/220
ANTEL	RADIANT 832XL
ANTEL	RADIANT 950
ANTEL	RADIANT 950MX
ANTEL	STR 300,350, 330 Transport
ANTEL	STR 500, 550, 900
ANTEL	STR 700, 770 Transport
ANTEL	STR 1100 Port
ANTEL	STR 1300 Port
ARA	PROCOMM 1600
ASTROTEL	
AT&T	1100
AT&T	1200/1240
AT&T	1300/1300C
AT&T	1400
AT&T	1710 Portable
AUDIOVOX	BC20
AUDIOVOX	BC40/BC45
AUDIOVOX	BC55
AUDIOVOX	BC55A
AUDIOVOX	CMT125
AUDIOVOX	CMT 400
AUDIOVOX	CMT 410
AUDIOVOX	CMT 410A
AUDIOVOX	CMT 500
AUDIOVOX	CMT 550
AUDIOVOX	CMT 600
AUDIOVOX	CMT 1000
AUDIOVOX	CMT 1700/1705
AUDIOVOX	CMT 3000
AUDIOVOX	CTR-1900 TransP
AUDIOVOX	CTX 1500
AUDIOVOX	CTX 2500
AUDIOVOX	CTX 3100
AUDIOVOX	CTX 3100A
AUDIOVOX	CTX 4000
AUDIOVOX	CTX 4500 Port
AUDIOVOX	CTX 5000
AUDIOVOX	MVX-500 Port
AUDIOVOX	PT-300 Port

AUDIOVOX	SP 75/85A
BENTLEY	BX7
BLAUPUNKT	MT 800AU
BLAUPUNKT	9000
BLAUPUNKT	9010
CHRYSTLER	VISORPHONE
CINCINATTI MICROWAV	Portable
CITICOMM	MM1000
CLARION	1100CT
CLARION	5100CT
CLARION	3000CT
CLARION	5200CT
CMTELECOM	AR3800
DIAMONDTEL	MESA 40
DIAMONDTEL	MESA 50
DIAMONDTEL	MESA 52
DIAMONDTEL	MESA 55
DIAMONDTEL	MESA 60 Port
DIAMONDTEL	MESA 60X Port
DIAMONDTEL	MESA 80X Port
DIAMONDTEL	MESA 90X Port
DIAMONDTEL	MESA 92
DIAMONDTEL	MESA 95 Transport
DIAMONDTEL	MESA 99X Port
FUJITSU	170 Port/364
FUJITSU	COMM 362
FUJITSU	COMM II(362A)
FUJITSU	COMM ILX(364)
FUJITSU	COMM FX & ST
FUJITSU	COMM XL
FUJITSU	F80M-360
FUJITSU	POCKET COMMANDER
GATEWAY	CP 900 Port
GE	1000/1500
GE	2000/2500
GE	3000/3500
GE	4000/4500
GE	EXECUTIVE
GE	HOTLINE 5000
GE	HOTLINE 7500
GE	MINI Port
GE	MINI II Port
GE	MONOGRAM
GE	POCKETFONE
GE	STAR
GOLDSTAR	GM/GT 5000
GLENAYRE	GL300
GTE	BRONZE 200
GTE	BRONZE 300
GTE	MERCURY 200
GTE	SILVER 300 SERIES
HITACHI	CR-2110H

HITACHI	CR-1110H
HITACHI	CR-211H,2121H
HARRIS	4200 CELPHONE
HARRIS	4400
HARRISON	4600
HYUNDAI	
INFINITI	
JAGUAR	
E.F. JOHNSON	
KENWOOD	KMP F500/KMP H700
LENEX	same as ANTEL LNX series
LEXUS	MOTO
LUXCEL	LXC/LXM/LXT 450
LUXCEL	LXC/LXM/LXT 600
MEI	CT2000
MEI	CT3000
MEI	HT5000
MESA	see DIAMONDTEL MESA series
MGA	MGA 100/200
MITSUBISHI	301/401/450/460
MITSUBISHI	500/555/560/600
MITSUBISHI	700,900,3000 portable
MITSUBISHI	800 trans/mobile
MITSUBISHI	1500 trans/mobile
MOBIRA	300 series, ME 57,ME 57A trans
MOBIRA	400 series trans, 500 series port
MOTOROLA	750 vers I Port
MOTOROLA	750 vers II Port
MOTOROLA	950 Port
MOTOROLA	950X Port
MOTOROLA	1100
MOTOROLA	1500/1500A
MOTOROLA	1800
MOTOROLA	SCN 2056 (1900)
MOTOROLA	2000
MOTOROLA	2000R
MOTOROLA	2000X
MOTOROLA	2200
MOTOROLA	2600
MOTOROLA	2900
MOTOROLA	3000
MOTOROLA	4000C
MOTOROLA	4000X
MOTOROLA	SCN 2005 (4500L)
MOTOROLA	SCN 2005 (4500XL)
MOTOROLA	5000
MOTOROLA	5000 Vers 2
MOTOROLA	6000
MOTOROLA	6000X
MOTOROLA	SLN 2020A (6000XL)
MOTOROLA	SLN 2023A (6800XL)
MOTOROLA	8000BC Port

MOTOROLA	8000BCX Port
MOTOROLA	8000P
MOTOROLA	8000S
MOTOROLA	8000X Port
MOTOROLA	8500XL
MOTOROLA	9000
MOTOROLA	MC 100
MOTOROLA	MC 200
MOTOROLA	MC 300
MOTOROLA	SCN 2005 (MC 400)
MOTOROLA	SCN 2090/2204 (MC500)
MOTOROLA	PERS TEL (w/menu key)
MOTOROLA	PERS TEL (w/o menu)
MOTOROLA	TT2 TransP
MOTOROLA	TT3 TransP
MOTOROLA	SCN 2090/2204 (TT5 TransP)
MOTOROLA	TT22 TransP
MOTOROLA	ULTRA CLASSIC
MURATA	CT50/MCT200 Port
NEC	1000/3500/5000/7000/4700
NEC	3700/3800/4500/4600/4800
NEC	9000/9100 portable
NEC	P200/P300 portable
NEC	P400/P600 portable
NOKIA	101/1000 port
NOKIA-MOBIRA	LX-11/M-11
NOKIA-MOBIRA	M-10
NOKIA-MOBIRA	P-30 port
NOKIA-MOBIRA	P4000/PT612
NOVATEL	AURORA 100/200
NOVATEL	VTR-8300/9300
NOVATEL	8305
NOVATEL	8320
OKI	ACC 91
OKI	CSI
OKI	21/23
OKI	200/300/400 series
OKI	610/630/691/692
OKI	620/693
OKI	700port/ACC91/710/750
OKI	810 mobile/891 trans
OKI	830/900
PANASONIC	3500 Port
PANASONIC	6104EA/6104EC
PANASONIC	6104EB
PANASONIC	CM/TF 800
PANASONIC	EB500/CM500/TP500/EB-T10/EB-C10
PANASONIC	EB3500 port
PANASONIC	HP600/EBH-30
PANASONIC	6106/6110/EB311/EB362
PIONEER	PCM 300/500
PIONEER	PCM 600

PRESTIGE	
PULSAR	
PHILIPS	FM 9210
RADIANT	-see ANTEL
RADIO SHACK	CT 102
RADIO SHACK	CT 200/201
RADIO SHACK	CT 300/301
RADIO SHACK	CT 300 Port
RADIO SHACK	CT 302
RADIO SHACK	CT 1033
RADIO SHACK	CT 100/101
RADIO SHACK	17-8003
RADIO SHACK	8000 series
SHINTOM	CM 7600
SHINTOM	CM 8700
SHINTOM	CT 8800
SHINTOM	XR2000/7600
SONY	CM-P11 port
STANDARD	
STS	CP832
TACTEL	TACTEL
TECHNOPHONE	PC 105/115/125/135 port
TECHNOPHONE	PC 205 port
TECHNOPHONE	MC905a/MC905MKII/MC985A/MC9995
TECHNOPHONE	MC915A
UNIDEN	CP-900/1000/1050/1100/1200/1500/1900
UNIDEN	CP-2000/3000/PRES4000GTS/4500GTS
UNIDEN	5000/6000GTS port
UNIDEN	CP-5500 port
USA CORP	portable
WALKER	910
WALKER	Port

ALPINE 9500

NAM Type:	Tri-State
Manufacturer:	Kokusai
Programmer:	Motorola 1801 -- Celnam, Curtis or Bytek
ESN Prefix DEC:	150
HEX:	96
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enable
Horn Alert Option:	Enable
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00
Horn Alert:	Aux
New Unlock Code:	NAM
System Select:	NAM (AB or BA)

ALPINE 9510

NAM Type:	Fujitsu
Manufacturer:	Fujitsu
Programmer:	Curtis or Bytek
ESN Prefix DEC:	150
HEX:	96
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00
Horn Alert:	F + #(Aux)
New Unlock Code:	NAM
System Select:	F + 1 + X

X=1 (A then B)
X=2 (B then A)
X=3 (A only)
X=4 (B only)
X=5 (Home)

ALPINE 9511

NAM Type:	EEPROM
Manufacturer:	Fujitsu
Programmer:	Handset
ESN Prefix DEC:	150
HEX:	96
ESN, S/N Match Required:	Yes
Programmable Handset:	Yes
Available Channels:	832

Programming Sequence: Power ON
F + LOCK
Power OFF
Power ON
#626#7764726 (within 10 seconds)
HOLD (*) key until tone stops
Enter data for each step then press STOR
Press SEND to write data

	#DIGITS	
System ID Format:	5	XXXXX
Local Use Option:	1	1
MIN Option:	1	1
Mobile Number:	10	XXX-XXX-XXXX
Station Class:	2	08
Initial Paging Channel:	3	333 or 334
Access Overload Class:	2	XX
Preferred System:	1	0 (B) or 1 (A)
Group ID Format:	2	XX
Lock:	3or4	XXX or XXXX
Call Timer:	1	4 (see i)
Auto Lock:	1	1 (see ii)
Call Restriction:	1	1 (see iii)

i. Call Timer - 1 Timer off
2 6-seconds
3 30-second
4 60-second

ii. Auto Lock - 1 Manual Lock, No out
2 Manual Lock, No calls
3 Auto Lock, No out
4 Auto Lock, No calls

iii. Call Restriction - 1 No Restriction
2 No Memory Dialing
3 No Long Distance
4 Both 2 and 3
5 Memory Calls Only
ALPINE 9511 NAMS 2,3,4

Programming Sequences: Power ON
Unlock Power (if locked)
(F) (7) (NAM Number - 2, 3 or 4)
(F) (Lock)
Power OFF
Power ON
Follow Programming Code and Steps from Previous Page

Horn Alert: F + # (Aux)
New Unlock Code: NAM
System Select: F + 1 + X

X=1 A then B
X=2 B then A
X=3 A only
X=4 B only
X=5 Home

ALPINE 9525 and 9530

NAM Type:	EEPROM
Manufacturer:	Fujitsu
Programmer:	Handset
ESN Prefix DEC:	150
HEX:	96
ESN, S/N Match Required:	Yes. Manufacturer Prefix + Last 4 or 5 digits.
Programmable Handset:	Yes
Available Channels:	832

Programming Sequence: Power ON
F + LOCK
Power OFF
Power ON
+ 626 + # + 7764726 (within 10 seconds)
Hold (*) key until tone stops
Enter data for each step then press STOR
Press SEND to write data

	# of Digits	Normal
System ID Format:	5	XXXXX
Local Use Option:	1	1
MIN Option:	1	1
Mobile Number:	10	XXX-XXX-XXXX
Station Class:	2	08 (Mobile) or 14 (Portable)
Initial Paging Channel:	3	333 or 334
Access Overload Class:	2	XX
Preferred System:	1	1(A) or 0(B)
Group ID Format:	2	XX
Unlock Code:	3or4	XXX or XXXX
Call Timer:	1	4 (i)
Auto Lock:	1	1 (ii)
Call Restriction:	1	1 (iii)
System ID Inhibit #:	5	XXXXX
System ID Inhibit #:	5	XXXXX
System ID Inhibit #:	5	XXXXX

i. Call Timer Increment - 1 Timer Off
2 6-second
3 30-second
4 60-second

ii. Auto Lock - 1 Manual Lock, No out
2 Manual Lock, No calls
3 Auto Lock, No out
4 Auto Lock, No calls

iii. Call Restriction - 1 No Restriction
2 No Memory Dialing
3 No Long-Distance
4 Both 2 and 3
5 Memory Calls only

NAMS 2-4

Programming Sequence: Power ON
Unlock Power (if locked)
F + 7 + NAM 2, 3 or 4
F + LOCK
Power OFF
Power ON
Follow Programming Code and steps from previous page.

ALPINE 9550 PORTABLE

```
                NAM Type:  E2 PROM
            Manufacturer:  Fujitsu
              Programmer:  Handset

       ESN Prefix   DEC:  150
                    HEX:  96
ESN/Serial Number Match:  Yes.  Manufacturer prefix + last 4 or
                          5 digits.
   Programmable Handset:  Yes
     Available Channels:  832
   Programming Sequence:  Power ON
                F + LOCK
                Power OFF
                Power ON
                # + 626 + # + 7764726 (within 3 seconds)
                Hold (*) key until tone stops
                Enter data for each step then press STO
                Press SEND to write data

       System ID Format:  5  XXXXX
       Local Use Option:  1  1
             MIN Option:  1  1
       Mobile Number:  10    XXX-XXX-XXXX
          Station Class:  2  14
 Initial Paging Channel:  4  0333 or 0334
  Access Overload Class:  2  XX
       Preferred System:  1  1(A) or 0(B)
        Group ID Format:  2  XX
         Unlock Code:  3 or 4                    XXX or XXXX
          Call Timer:  1     4
              Auto Lock:  1  1
       Call Restriction:  1  1

    Call Timer Increment -  1  Timer off
                2  6-seconds
                3  30-seconds
                4  60-seconds
    Auto Lock -  1  Manual Lock, No out
                2  Manual Lock, No calls
                3  Auto Lock, No out
                4  Auto Lock, No calls
    Call Restriction -  1  No restriction
                2  No memory dialing
                3  No Long-distance
                4  Both 2 and 3
                5  Memory Calls only
```

Programming Sequence: Power ON
Unlock Phone (if locked)
F + 7 + NAM 2, 3 or 4
F + LOCK
Power OFF
Power ON
Follow Programming Code and steps from previous page.

New Unlock Code: NAM
System Select: FCN + 1 + X
X=1 AB
X=2 BA
X=3 A only
X=4 B only
X=5 Home

Current status may be reviewed with RCL/ALT + FCN + 1

AMERICEL

See SHINTOM 8000 series Programming Instructions.

ANTEL LENEX LNX100, NTX 110, LNX200 and NTX220

NAM Type:	EEPROM
Manufacturer:	General Electric
Programmer:	Handset
ESN Prefix DEC:	146
HEX:	92
ESN, S/N Match Required:	Yes
Stamped Model Number:	100 Series - LENEX 1 200 Series - LENEX 2
Available Channels:	832

Programming Sequence: Enter sequence: 04049 + FCN + FCN
ESN will be displayed
Press SEND to increment
Once parameter has been entered, press SEND to enter step and increment
Press END to store programmed data in NAM and and resume normal operation

	# of digits	typical
Area Code:	3	XXX + SEND
Mobile Number:	7	XXX-XXXX + SEND
System ID Format:	5	XXXX + SEND
Local Use Option:	1	1 + SEND
MIN Option:	1	1 + SEND
Initial Paging Channel:	4	0333 or 0334 + SEND
Access Overload Class:	2	XX + SEND
Preferred System:	1	0(B) or 1(A) + SEND
Group ID Format:	2	XX + SEND
Security Code:	4	XXXXX + SEND
Handsfree:	1	0(Disable) + SEND or 1(Enable) + SEND
Horn Alert:	1	1 + SEND
Autonomous Registration:	1	0(Disable) + SEND or 1(Enable) + SEND
Whereabouts Known:	1	0(Disable) + SEND or 1(Enable) + SEND
One-minute Audible Beep: (at 45-seconds, LNX200 Only)	1	0(Disable) + SEND or 1(Enable) + SEND
Continuous Tone:	1	0(Disable) + SEND or 1(Enable) + SEND
Dual NAM:	1	0(Disable) + SEND or 1(Enable) + SEND

When Dual NAM is enable, begin programming again with Step 1 for the second NAM.

```
        Horn Alert:  FCN + 9
    New Unlock Code:  NAM
      System Select:  FCN + 4 + * or # (to scroll choices)

Selections include:  Preferred (AB or BA)
                     Altr only (Alternate only A only or B only)
                     Pref only (A only of B only)
                     Roam only (No Home operation)
                     Home only
                     Alternat (Alternate AB or BA)

                     Press END to exit and Store Selection
```

ANTEL RADIANT 832 XL

NAM Type:	Tri-State
Manufacturer:	Antel
Programmer:	Motorola 1801 -- Celnam, Bytek or Curtis
ESN Prefix DEC:	178
HEX:	B2
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	832
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled (Enable if Equipped)
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	08

Hex Address	B7							B0
13	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0

Hex Address 13
B7 Disable 32 Digit Dial
B2 Enable Special Lock

Hex Address 14
B7 to B4 Special Lock 1st Digit
B3 to B0 Special Lock 2nd Digit

Hex Address 15
B7 to B4 Special Lock 1st Digit

I.E: If Special Lock (Hex 13-B2) is enabled, then the three digits of Special Lock are programmed in Hex 14 and 15. Use chart to help with binary conversions.

Decimal	Hexidecimal	Binary
1	1	0001
2	2	0010
3	3	0011
4	4	0100
5	5	0101
6	6	0110
7	7	0111
8	8	1000
9	9	1001
0	A	1010

ANTEL RADIANT 950

NAM Type: EEPROM
Manufacturer: Sun Moon Star
Programmer: Handset

ESN Prefix DEC: 178
HEX: B2
ESN, S/N Match Required: Yes

Available Channels: 832

Programming Sequence: Power ON
Enter sequence FCN + FCN + * + 950626 + *
Software version will be displayed
Enter NAM numer (1 to 4) within 5 seconds + VOL UP
Enter parameter for each step + # + VOL UP (to increment)
To complete programming, press FCN + END

	# of digits	typical
System ID Format:	5	XXXX + # + VOL UP
Station Class:	2	08 (Preset) + VOL UP
Mobile Number:	10	XXX-XXX-XXXX + # + VOL UP
Initial Paging Channel:	3	333 or 334 + # + VOL UP
Access Overload Class:	2	XX + # + VOL UP
Group ID Format:	2	XX + # + VOL UP
Lock Code A:	3	XXX + # + VOL UP
Lock Code B:	3	XXX + # + VOL UP
Local Use Option:	1	1 + # + VOL UP
MIN Option:	1	1 + # + VOL UP
Preferred System:	1	0(B) or 1(A) + # + VOL UP
End-to-End Signalling:	1	1 + # + VOL UP
Repertory Option:	1	1 + # + VOL UP
Horn Alert Option:	1	1 + # + VOL UP
Handsfree Option:	1	0(Disable) or 1(Enable) + # + VOL UP
Full Lock Enable:	1	0(Disable) or 1(Enable) + # + VOL UP
Enable Lock Mode:	1	1 + # + VOL UP
Enable Partial Lock Mode:	1	0(Disable) or 1(Enable) + # + VOL UP

Press FCN + END to exit program mode

ANTEL RADIANT 950MX

NAM Type:	EEPROM	
Manufacturer:	Sun Moon Star	
Programmer:	Handset	
ESN Prefix DEC:	178	
HEX:	B2	
ESN, S/N Match Required:	Yes	
Available Channels:	832	
Programming Sequence:	Power ON	

Enter programming mode: FCN + FCN + * + 950626 + *
Software version will be displayed
Press (up arrow) key to advance
Select NAM 1, 2 3, or 4 within 5 seconds
Use (up arrow) and (down arrow) keys to step through parameters
Press # after entering each parameter to store info.
Once all information has been programmed, press FCN + END to exit

	# of digits	typical
System ID Format:	5	XXXXX + #
Station Class:	**SCM 8** should be displayed	
Mobile Number:	10	XXX-XXX-XXXX + #
Initial Paging Channel:	3	333 or 334 + #
Access Overload Class:	2	XX + #
Group ID Format:	2	XX + #
Lock Code A:	3	XXX + #
Lock Code B:	3	XXX + #
Local Use Option:	1	1 + #
MIN Option:	1	1 + #
Preferred System:	1	0(B) or 1(A) +#
End-to-End Signalling:	1	1 + #
Repertory Option:	1	1 + #
Horn Alert Option:	1	1(Enable) or 0(Disable) + #
Handsfree Option:	1	1(Enable) or 0(Disable) + #
Full Lock Option:	1	1(Enable) or 0(Disable) + #
Lock Option:	1	1(Enable) or 0(Disable) + #
Partial Lock Option:	1	1(Enable) or 0(Disable) + #

Horn Alert:	FCN + 4 + 1
New Unlock Code:	NAM
System Select:	FCN + 5 + X

X=1 AB Pref A
X=2 BA Pref B
X=3 A only
X=4 B only
X=5 Home
Press CLR to exit.

ANTEL STR 300, 350, 500, 550, 700, 770, 900 and 950

NAM Type:	EEPROM	
Manufacturer:	Antel	
Programmer:	Handset	
ESN Prefix DEC:	146	
HEX:	92	
ESN, S/N Match Required:	Yes	
Available Channels:	832	
Programming Sequence:	Enter sequence 04049 + FCN + FCN	
	ESN will be displayed	
	Press SEND to increment	
	Once parameter has been entered, press SEND to enter step and increment	
	Press END to store programmed data in NAM and resume normal operation	
	# digits	
Area Code:	3	XXX + SEND
Mobile Number:	7	XXX-XXXX + SEND
System ID Format:	5	XXXXX
Local Use Option:	1	1 + SEND
MIN Option:	1	1 + SEND
Initial Paging Channel:	4	0333 or 0334 + SEND
Access Overload Class:	2	XX + SEND
Preferred System:	1	0(B) + 1(A) + SEND
Group ID Format:	2	XX + SEND
Security Code:	4	XXXXX + SEND
Handsfree Option:	1	0(Disable) + SEND or 1(Enable) + SEND
Horn Alert Option:	1	1 + SEND
Autonomous Registration:	1	0(Disable) + SEND or 1(Enable) + SEND
Whereabouts Known:	1	0(Disable) + SEND or 1(Enable) + SEND
One Minute Audible Beep: (at 45 seconds)	1	0(Disable) + SEND or 1(Enable) + SEND
Continuous Tone: (extended DTMF)	1	0(Disable) + SEND or 1(Enable) + SEND
Dual NAM:	1	0(Disable) + SEND or 1(Enable) + SEND

When Dual NAM is enabled, programming begins again with first step, for the second NAM.

Horn Alert:	FCN + 9
New Unlock Code:	NAM
System Select:	FCN + 4 + * or # (to scroll options)

Selections include:

- Preferred (AB or BA)
- Altr Only (Alternate Only, A only, or B only)
- Pref Only (A only or B only)
- Roam Only (No Home Operation)
- Home Only
- Alternat (Alternate, AB or BA)

Press END to exit and store selection.

ANTEL STR 1100 PORTABLE

NAM Type: EEPROM
Manufacturer: Sanyo
Programmer: Handset

ESN Prefix DEC: 175
HEX: AF
ESN, S/N Match Required: Yes (175000 + Last 5 digits)

Available Channels: 832

Programming Sequence: Enter sequence M(Mute) + 310# + 2567252 + RCL (must be entered within 10 seconds of power up)
ESN will be displayed
Press (up arrow) + (up arrow) to increment
Select NAM (1,2 or 3) + (up arrow)
NAM Prog Exists - Press 0 (to reselect NAM #) or Press 1 to enter program mode + (up arrow)
Once each parameter has been entered, press (up arrow) to enter step and increment
Press STO to store programmed data in NAM and END to resume normal operation

	# of digits	
Mobile Number:	10	CLR + XXX-XXXX + (up arrow)
System ID Format:	5	CLR + XXXXX + (up arrow)
Local Use Option:	1	CLR + 1 + (up arrow)
MIN Option:	1	CLR + 1 + (up arrow)
Initial Paging Channel:	4	CLR + (0333 or 0334) + (up arrow)
Access Overload Class:	2	CLR + XX + (up arrow)
Preferred System:	1	CLR + 0(B) or 1(A) + (up arrow)
Group ID Format:	2	CLR + XX + (up arrow)
Unlock Code:	4	CLR + XXXX + (up arrow)
End-to-End Signalling:	1	CLR + 1 + (up arrow)
A/B Select:	1	CLR + 1 + (up arrow)
NAM Program Area Code:	1	CLR + 1 + (up arrow)
Discontinuous Trans:	1	CLR + (0 or 1) + 1 + (up arrow)

Press STO to store information and END to exit program mode.

New Unlock Code: NAM
System Select: FCN + 5 + 5 + 5, etc. (to scroll choices)
Selections include: Pref Only (A only or B only)
Standard (AB or BA)
Home Only
Alternate Only (BA or AB)
Press END to exit and store selection.

ANTEL STR 1300 PORTABLE

NAM Type: EEPROM
Manufacturer: Sanyo
Programmer: Handset

ESN Prefix DEC: 175
HEX: AF
ESN, S/N Match Required: Yes (175000 + Last 5 digits)

Available Channels: 832

Programming Sequence: Enter sequence M (Mute) + 626# + 7871300 + RCL (enter within 10 sec of power up)
ESN will be displayed
Press (up arrow) + (up arrow) to increment
Once each parameter has been entered, press (up arrow) to enter step and increment
Press STO to store programmed data in NAM and END to resume normal operation

	# of digits	
Mobile Number:	10	CLR + XXX-XXXX + (up arrow)
System ID Format:	5	CLR + XXXXX + (up arrow)
Local Use Option:	1	CLR + 1 + (up arrow)
MIN Option:	1	CLR + 1 + (up arrow)
Initial Paging Channel:	4	CLR + (0333 or 0334) + (up arrow)
Access Overload Class:	2	CLR + XX + (up arrow)
Preferred System:	1	CLR + 0(B) or 1(A) + (up arrow)
Group ID Format:	2	CLR + XX + (up arrow)
Unlock Code:	4	CLR + XXXX + (up arrow)
End-to-End Signalling:	1	CLR + 1 + (up arrow)
A/B Select:	1	CLR + 1 + (up arrow)
NAM Program Area Code:	1	CLR + 1 + (up arrow)
Discontinuous Trans:	1	CLR + (0 or 1) + (up arrow)

Press STO to store information and END to exit program mode.
or
To program NAMs 2 or 3, press STO + NAM number. You will be prompted to enter information for the additional NAMs. To exit program mode, press STO + END.

New Unlock Code: NAM
System Select: FCN + 5 + 5 + 5, etc. (to scroll choices)
Selections include: Pref Only (A only or B only)
Standard (AB or BA)
Home Only
Alternate (BA or AB)

Press END to exit and store selection.

ARA

See GE CARFONE programming instructions.

ASTROTEL

See OKI-400 Series, handset programmable.

AT & T 1100 and 1200

NAM Type:	Tri-State
Manufacturer:	Hitachi
Programmer:	Motorola or Curtis
ESN Prefix DEC:	132
HEX:	84
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00
Horn Alert:	HORN
New Unlock Code:	NAM
System Select:	NAM

AT & T 1300, 1300C and 1400

NAM Type:	Tri-State
Manufacturer:	Mitsubishi
Programmer:	Curtis or Bytek
ESN Prefix DEC:	134
HEX:	86
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
MIN 1:	XXX
MIN 1:	XXX
Lock:	XXX
MIN 2:	XXX
System ID Format:	XXXX
Horn Alert Option:	1
Handsfree Option:	1 (if equipped)
End-to-End Signalling:	1
Repertory Option:	1
Group ID Format:	XX
Access Overload Class:	XX
Station Class:	0000
Local Use:	1
Initial Paging Channel:	333 or 334
Preferred System:	1(A) or 0(B)

Manufacturer Options (for Curtis Programmer)
33 Enable System Select: 1
34 Roam Inhibit: 0

Horn Alert:	HORN
New Unlock Code:	NAM
System Select:	When the manufacturer option, 33 above, is enabled, the following sequence allows system selection. This process must be repeated each time the phone is turned on.

STORE + # + # + #, etc. (One of the following will appear).

AAABBB or BBBAAA	Standard (AB or BA)
BBBAAA or AAABBB	Alternate (BA or AB)
CSOAAA or CSOBBB	Home
AAAAAA or BBBBBB	Pref Only (A only or B only)
BBBBBB or AAAAAA	Non-pref Only (B only or A only)

Press CLEAR to exit

AT & T 1710 PORTABLE

See Hitachi CR-2111H

AUDI (Factory Phone)

See Motorola Programming (Use Program Sequence 6)

AUDIOVOX BC-2 and CMT 125

NAM Type:	Tri-State
Manufacturer:	Shintom
Programmer:	Bytek, Curtis or Motorola-Celnam
ESN Prefix DEC:	174
HEX:	AE
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Manufacturer Options:

Hex Address	B7							B0
13	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0
1A	0	0	0	0	0	0	0	0
1B	0	0	0	0	0	0	0	0

Description:

Address 13 -- B0 Extended Digits
B3 Timer Beeper Tone

Address 14 -- Horn Alert Safety Timer

B0	B1	Duration
0	0	2 hours
1	0	4 hours
0	1	6 hours
1	1	8 hours

Address 18 -- Call Restriction Code - 1st two of three digits
B7 to B4 1st digit
B3 to B0 2nd digit

Address 19 -- Call Restriction Code - 3rd of three digits
B7 to B4 3rd digit

Address 1A -- Accumulated Timer Reset Code
1st two of three digits
B7 to B4 1st digit
B3 to B0 2nd digit

Address 1B -- Accumulated Timer Reset Code
3rd of three digits
B7 to B4 3rd digit

Digit Conversion Chart

Decimal	Binary	Hexadecimal
0	0000	0
1	0001	1
2	0010	2
3	0011	3
4	0100	4
5	0101	5
6	0110	6
7	0111	7
8	1000	8
9	1001	9

AUDIOVOX BC55, CMT 410, CTX 1500, 2500, 3100, 4000, 4100 and SP 85

```
                NAM Type:  EEPROM
            Manufacturer:  Toshiba
              Programmer:  Handset
       ESN Prefix   DEC:  138
                    HEX:  8A
 ESN, S/N Match Required:  No
    Programmable Handset:  Yes (requires current unlock code)
      Available Channels:  832

    Programming Sequence:  Power ON (unlock if phone is in lock
                           mode)
                  XXX + FUNC + # + 1   XXX=000 (new units)
                               XXX=current unlock code
                  Enter each item, then press STO
                  # or * can be used to increment or decrement
                  FUNC + SND writes data in NAM
                  FUNC + CLR initialized phone

                       # of digits
        Mobile Number:  10    XXX-XXX-XXXX
        Security Code:  3     XXX
        System ID Format:  5  XXXXX
   Access Overload Class:  2  XX
         Group ID Format:  2  XX
        Local Use Option:  1  1
              MIN Option:  1  1
  Initial Paging Channel:  4  0333 or 0334
        Preferred System:  1  0 (B) or 1 (A)
           Station Class:  4  1000
         Program Options:  8[1]                    XXXXX000
         Program Options:  8[2]                    XXXX0000
 Safety Timer (CTX-4000):  2  00 to 31 hours
 No Charge Airtime Delay:  3  000 to 255 seconds
   Call Timer Reset Code:  3  XXX
      Roam Inhibit Sys 1:  5  XXXXX
      Roam Inhibit Sys 2:  5  XXXXX
      Roam Inhibit Sys 3:  5  XXXXX
      Roam Inhibit Sys 4:  5  XXXXX
      Roam Inhibit Sys 5:  5  XXXXX
 Reserved for Future Use:  -  ----------

Program Options:
[1]  Audible Call Timer
     Auto Lock
     Auto Redial
     Call Restriction
     32-digit Dialing
     Not used
     Not used
     Not used
```

[2] Handsfree
End-to-end Signalling
Repertory Dialing
Horn Alert
Not used
Not used
Not used
Not used

Horn Alert: FCN + 2 + turn ignition off
New Unlock Code: NAM
System Select: Review - FUNC + 0 + 4
FUNC + 0 + X

X=0 Standard (AB or BA)
X=1 Pref Only
X=2 Home
X=3 Non-pref Only

(Roam inhibit specific System ID - NAM option)

AUDIOVOX BC55A, CMT410A, CTR1900 TRANSPORTABLE, CTX3100A, CTX4100A and SP85A

NAM Type:	EEPROM
Manufacturer:	Toshiba
Programmer:	Handset
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	No (see bar-graph label on transceiver)
Programmable Handset:	Yes (requires current unlock code)
Available Channels:	832

Programming Sequence: Power ON (unlock if phone is in lock mode)
XXX + FUNC + # + 1 XXX=000 (new units) 434
XXX=current unlock code
Enter each item, then press STO
Press # or * to increment or decrement
FUNC + SND writes data in NAM
FUNC + CLR initializes phone and exits program mode

	# digits	
Mobile Number:	10	XXX-XXX-XXXX + STO
Security Code:	3	XXX + STO
System ID Format:	5	XXXXX + STO
Access Overload Class:	2	XX + STO
Group ID Format:	2	XX + STO
Local Use Option:	1	1 + STO
MIN Option:	1	1 + STO
Initial Paging Channel:	4	0333 or 0334 + STO
Preferred System:	1	0(B) or 1(A) + STO
Station Class:	4	1000 + STO
Program Options:	8^1	XXXXX000 + STO
Program Options:	8^2	XXXX0000 + STO
Safety Timer:	2	00 to 31 hours + STO
No Charge Airtime Delay:	3	0000 to 255 seconds + STO
Call Timer Reset Code:	3	XXX + STO
Roam Inhibit Sys 1:	5	XXXXX + STO
Roam Inhibit Sys 2:	5	XXXXX + STO
Roam Inhibit Sys 3:	5	XXXXX + STO
Roam Inhibit Sys 4:	5	XXXXX + STO
Roam Inhibit Sys 5:	5	XXXXX + STO
Reserved for Future Use:	-	----------

Program Options:

[1] Audible Call Timer
  Auto Lock
  Auto Redial
  Call Restriction
  32-digit dialing
  Not used
  Not used
  Not used

[2] Handsfree
  End-to-end Signalling
  Repertory Dialing
  Horn Alert
  Not used
  Not used
  Not used
  Not used

Horn Alert: FCN + 2 + turn ignition off
New Unlock Code: NAM
System Select: Review - FUNC + 0 + 4

Set - FUNC + 0 + X

X=0 Standard (AB or BA)
X=1 Pref Only
X=2 Home
X=3 Non-pref Only

(Roam Inhibit for Specific System ID's - NAM option)

AUDIOVOX CMT300 (BMW), CTX3200A, CTX4200A, 832CO, C1000, CTR2000 and TCT400

NAM Type:	EEPROM
Manufacturer:	Toshiba
Programmer:	Handset
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	No (see bar-graph label on transceiver)
Stamped Model Number:	CMT300, CTX3200A, 832CO, CTR2000 and C1000 - 3200A, CTX4200A - 4200A
Available Channels:	832
Programming Sequence:	Power ON (unlock if phone is in lock mode) XXX + FUNC + # + 1 XXX=000 (new units) XXX=current unlock code Enter each item, then press STO Press # or * to increment or decrement FUNC + SND writes data in NAM FUNC + CLR initializes phone and exits program mode

If the current unlock code doesn't allow program access, the phone may have been programmed with an activation code (see last step) If this is the case, the phone must be returned to the factory for programming.

Mobile Number:	10	XXX-XXX-XXXX + STO	
Security Code:	3	XXX + STO	
System ID Format:	5	XXXXX + STO	
Access Overload Class:	2	XX + STO	
Group ID Format:	2	XX + STO	
Local Use Option:	1	1 + STO	
MIN Option:	1	1 + STO	
Initial Paging Channel:	4	0333 or 0334 + STO	
Preferred System:	1	0(B) or 1(A) + STO	
Station Class:	4	1000 + STO	
Program Options:	8[1]	XXXXX000 + STO	
Program Options:	8[2]	XXXX0000 + STO	
Safety Timer:	2	00 to 31 hours + STO	
No Charge Airtime Delay:	3	0000 to 255 seconds + STO	
Call Timer Reset Code:	3	XXX + STO	
Roam Inhibit Sys 1:	5	XXXXX + STO	
Roam Inhibit Sys 2-25:	5		XXXXX + STO
NAM Reprogram Code:	5	XXXXX + STO	
Reserved:			
Reserved:			
Reserved:			
Activation Code:	7	XXXXXXX + STO	

Program Options:

[1] Audible Call Timer
Auto Lock
Auto Redial
Call Restriction
32-digit dialing
Not used
Not used
Not used

[2] Handsfree
End-to-end Signalling
Repertory Dialing
Horn Alert
911 Dial
Not used
Not used
Not used

Horn Alert: FCN + 2 + turn ignition off
New Unlock Code: NAM
System Select: Review - FUNC + 0 + 4

Set - FUNC + 0 + X

X=0 Standard (AB or BA)
X=1 Pref Only
X=2 Home
X=3 Non-pref Only

(Roam Inhibit for Specific System ID's - NAM option)

AUDIOVOX CMT-500

NAM Type:	Tri-State
Manufacturer:	TOSHIBA
Programmer:	Motorola, Curtis, or Bytek
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	NO
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Manufacturer Options:

Hex Address	B7							B0
13	0	0	0	0	0	0	1	1
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0
1A	0	0	0	0	0	0	0	0
1B	X	X	X	X	X	X	X	X
1C	X	X	X	X	0	0	0	0

description:

```
Address 13 -- B0     Call Timer
              B1     A/B Switch
Address 1B -- B4-B7 Call Timer Clear Code   1st Digit (Binary)
              B0-B3 Call Timer Clear Code   2nd Digit (Binary)
Address 1c -- B4-B7 call Timer Clear Code   3rd Digit (Binary)
```

AUDIOVOX CMT-1000

NAM Type:	Tri-State
Manufacturer:	TOSHIBA
Programmer:	Motorola, Curtis, or Bytek
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	NO
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Horn Alert: HORN
New Unlock Code: NAM
System Select: NAM (AB or BA only)

AUDIOVOX CMT-3000

NAM Type:	Tri-State
Manufacturer:	TOSHIBA
Programmer:	Motorola, Curtis, or Bytek
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	NO
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Manufacturer Options:

Hex Address	B7							B0
13	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0
1A	0	0	0	0	0	0	0	0
1B	X	X	X	X	X	X	X	X
1C	X	X	X	X	0	0	0	0

description:

Address 13 -- B0 Call Timer

Address 1B -- B4-B7 Call Timer Clear Code 1st Digit (Binary)
B0-B3 Call Timer Clear Code 2nd Digit (Binary)

Address 1c -- B4-B7 call Timer Clear Code 3rd Digit (Binary)

Horn Alert: HORN ALERT + Turn ignition off
New Unlock Code: NAM
System Select: n/a

AUDIOVOX CTX-4500 and CTX-5000 PORTABLE

NAM Type:	E2 PROM
Manufacturer:	Toshiba
Programmer:	Handset
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	No
Stamped Model Number:	CTX-5000
Available Channels:	832

Programming Sequence: Power ON (unlock if phone is in lock mode)
XXX + FUNC + # + 1 XXX=000 (new units)
XXX=current unlock code
Enter each item, then press STO
or * can be used to increment and decrement
FUNC + SND writes data in NAM
FUNC + CLR initializes phone

	# of digits	
Mobile Number:	10	XXX-XXX-XXXX
Unlock Code:	3	XXX
System ID Format:	5	XXXXX
Access Overload Class:	2	XX
Group ID Format:	2	XX
Local Use Option:	1	1
MIN Option:	1	1
Initial Paging Channel:	4	0333 or 0334
Preferred System:	1	0 (B) or 1 (A)
Station Class:	4	1010
Program Options:	8[1]	XXXXX000
Program Options:	8[2]	XXXX0000
Safety Timer (CTX-4000):	2	00 to 31 hours
No Charge Airtime Delay:	3	000 to 255 seconds
Call Timer Reset Code:	3	XXX
Roam Inhibit Sys 1:	5	XXXXX
Roam Inhibit Sys 2:	5	XXXXX
Roam Inhibit Sys 3:	5	XXXXX
Roam Inhibit Sys 4:	5	XXXXX
Roam Inhibit Sys 5:	5	XXXXX
Reserved for Future Use:	-	----------

Program Options:

1
- Audible Call Timer
- Auto Lock
- Auto Redial
- Call Restriction
- 32-digit Dialing - 0=16 digits, 1=32 digits
- Not used
- Not used
- Not used

2
- Handsfree
- End-to-end Signalling
- Repertory Dialing
- Not used
- Not used
- Not used
- Not used
- Not used

New Unlock Code: NAM
System Select: Review - FUNC + 0 + 4
FUNC + 0 + X

X=0 Standard (AB or BA)_
X=1 Pref Only
X=2 Home
X=3 Non-pref Only

AUDIOVOX MVX 500 PORTABLE

NAM Type:	EPROM
Manufacturer:	Toshiba
Programmer:	Handset
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	No
Stamped Model Number:	MVX 500
Available Channels:	832

Programming Sequence: Power ON (unlock if phone is in lock mode)
XXX + FUNC + # + 1 XXX=000 (new units)
XXX=current unlock code
Enter each item, then press STO
or * can be used to increment and decrement
FUNC + SND writes data in NAM
FUNC + CLR initializes phone

	# of digits	
Mobile Number:	10	XXX-XXX-XXXX +STO
Unlock Code:	3	XXX + STO
System ID Format:	5	XXXXX + STO
Access Overload Class:	2	XX + STO
Group ID Format:	2	XX + STO
Local Use Option:	1	1 + STO
MIN Option:	1	1 + STO
Initial Paging Channel:	4	0333 or 0334 + STO
Preferred System:	1	0 (B) or 1 (A) + STO
Station Class:	4	1010 + STO + STO
Program Options:	8[1]	XXXXX0XX + STO
Program Options:	8[2]	XXX0X000 + STO
Reserved:	0	STO
Reserved:	0	STO
Call Timer Reset Code:	3	XXX + STO
Roam Inhibit Sys 1-25:	5	XXXXX + STO
NAM Reprogram Code:	3	XXX + STO
Reserved:	0	STO
Activation Code:	7	XXXXXXX + STO

Program Options:
[1] Audible Call Timer
Auto Lock
Auto Redial
Call Restriction
32-digit Dialing - 0=16 digits, 1=32 digits
Not used
Data Auto Answer
Any Dial Answer

2 Handsfree
End-to-end Signalling
Repertory Dialing
Not used
911 Dial
Not used
Not used
Not used

New Unlock Code: NAM
System Select: Review - FUNC + 0 + 4
FUNC + 0 + X

X=0 Standard (AB or BA)_
X=1 Pref Only
X=2 Home
X=3 Non-pref Only

AUDIOVOX PT300 PORTABLE

NAM Type:	EEPROM
Manufacturer:	Toshiba
Programmer:	Handset
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	No
Programmable Handset:	Yes (requires current unlock code)
Available Channels:	832

Programming Sequence: Power ON (unlock if phone is in lock mode)
XXX + FUNC + # + 1 XXX=000 (new units)
XXX=current unlock code
Enter each item, then press STO
or * can be used to increment and decrement
FUNC + SND writes data in NAM
FUNC + CLR initializes phone

	# of digits	
Mobile Number:	10	XXX-XXX-XXXX + STO + #
Unlock Code:	3	XXX + STO + #
System ID Format:	5	XXXXX + STO + #
Access Overload Class:	2	XX + STO + #
Group ID Format:	2	XX + STO + #
Local Use Option:	1	1 + STO + #
MIN Option:	1	1 + STO + #
Initial Paging Channel:	4	0333 or 0334 + STO + #
Preferred System:	1	0 (B) or 1 (A) + STO + #
Station Class:	4	1010 (binary) or 10 (dec) + + STO + #
Program Options:	8[1]	XXXXX000 + STO + #
Program Options:	8[2]	XXXX0000 + STO + #
Safety Timer (CTX-4000):	2	00 to 31 hours + STO + #
No Charge Airtime Delay:	3	000 to 255 seconds + STO + #
Call Timer Reset Code:	3	XXX + STO + #
Roam Inhibit Sys 1:	5	XXXXX + STO + #
Roam Inhibit Sys 2:	5	XXXXX + STO + #
Roam Inhibit Sys 3:	5	XXXXX + STO + #
Roam Inhibit Sys 4:	5	XXXXX + STO + #
Roam Inhibit Sys 5:	5	XXXXX + STO + #
Roam Inhibit Sys 6:	5	XXXXX + STO + #
Roam Inhibit Sys 7:	5	XXXXX + STO + #
Roam Inhibit Sys 8:	5	XXXXX + STO + #
Roam Inhibit Sys 9:	5	XXXXX + STO + #
Roam Inhibit Sys 10:	5	XXXXX + STO + #

Exit Program Mode Here

Program Options:

1
Audible Call Timer
Auto Lock
Auto Redial
Call Restriction
32-digit Dialing - 0=16 digits, 1=32 digits
Not used
Not used
Not used

2
Handsfree
End-to-end Signalling
Repertory Dialing
Not used
911 Dialing
Not used
Not used
Not used

New Unlock Code: NAM
System Select: Review - FUNC + 0 + 4
FUNC + 0 + X

X=0 Standard (AB or BA)_
X=1 Pref Only
X=2 Home
X=3 Non-pref Only

BENTLEY BX7

See NOVATEL 8320 for programming instructions

BLAUPUNKT MT 8000AU

See PANASONIC 6104EB programming instructions

Horn Alert: END + # (simultaneously for 2 seconds)
New Unlock Code: NAM
System Select: F + X
X=7 Standard (AB or BA)
X=8 Pref Only (Only A or Only B)
X=9 Non-pref Only (Only B or Only A)

BLAUPUNKT MT9000 and MT9000P

See PANASONIC 6106/6110

BLAUPUNKT MT 9010 and MT 9010P

See Motorola handset programming instructions. Use programming Sequence Number 6.

Horn Alert: FCN + 4
New Unlock Code: FCN + 6-digit security code + new 3-digit Unlock Code + #
System Select: RCL/STO + repeatedly press *
(One of the following prompts will appear)
STD AB or STD BA (Standard)
SCAN BA or SCAN AB (Alternate)
SCAN A
SCAN B
Press # to enter selection.

CHRYSLER VISORPHONE

NAM Type: EEPROM
Manufacturer: OKI
Programmer: Keypad

ESN Prefix DEC: 129
HEX: 81
ESN, S/N Match Required: Yes
Available Channels: 832

Programming Sequence: Power ON
After phone initializes, press 4 key and 6 key simultaneously, then release
Enter 10-digit password XXXXXXXXXX
0008693428 or 10-digit code programmed by previous technician (enter within 20 seconds)
ESN and Software version will be displayed
Press 0 + 0 to initialize transceiver
Enter step number (1-9) then enter data
Press STO to enter each step
Press FUNC and phone reverts to "Press 1-9"
CLR key corrects data before STO is pressed
To program 2nd NAM, press * when phone displays "Press 1-9" (this repeats steps 3-5)
Press CLR + CLR to write data in NAM

	# of digits	
Mobile Number:	10	XXX-XXX-XXXX + STO + FUNC
System ID Format:	5	XXXXX + STO + FUNC
Initial Paging Channel:	3	XXX + STO + FUNC
Access Overload Class:	2	XX + STO + FUNC
Lock Code:	4	XXXX + STO + FUNC
Group ID Format:	2	XX + STO + FUNC
Station Class:	4	1000 + STO + FUNC
(Enter Station class in binary - 1000 binary, 08 decimal)		
Options:	4	11X1 + STO + FUNC
Security Code:	6	XXXXXX + STO +_FUNC

Press CLR + CLR to write data in NAM

Options: 0 (Disable)
1 (Enable)

MIN Option
Local Use
Handsfree
Audio Mute

```
New Unlock Code:  NAM
  System Select:  FUNC + 3 + 3 + 3, etc. (to scroll
                  choices)
          SCN  AB
          SCN  BA
          SCN  A
          SCN  B
          SCN  Ho (Home)
          SID NO.  (enter System ID #)

        Press STO to enter selection.
```

CINCINATTI MICROWAVE PORTABLE

Not handset programmable from the factory. The phone can be sent for modification to CINCINATTI MICROWAVE to be handset programmable. Call (800) 247-4300 for instructions and cost.

After phone has been factory modified to accept handset programming, use MOTOROLA ULTRA CLASSIC programming instructions. Place the phone in a manual test mode to read the existing 6-digit security code necessary for keypad programming.

This phone has dual NAM capability. To toggle between NAM's, press RCL + # + STO.

CITICOMM MM1000

NAM Type:	EE Prom
Manufacturer:	Citicomm
Programmer:	Keypad with cradle jumper installed
ESN Prefix DEC:	163
HEX:	A3
ESN, S/N Match Required:	Yes
Available Channels:	832

Programming Sequence: Open cradle and insert a jumper wire from contact #8 to contact #10 on cradle PC board (See schematic next page)
Power ON
Press * + * + # + # + FCN + STO (within 10 seconds to enter program mode)
Enter NAM option 0, 1 or 2
- 0 NAM 1 only (lock out NAM 2)
- 1 Program NAM 1
- 2 Program NAM 2

Enter parameter for each step then press STO to store increment
CLR key corrects data before STO is pressed
Press SEND to write data in NAM

System ID Format:	5	XXXXX + STO
Local Use Option:	1	1 + STO
MIN Option:	1	1 + STO
Mobile Number:	10	XXX-XXX-XXXX + STO
Station Class:	2	08 + STO
Initial Paging Channel:	4	0333 or 0334 + STO
Access Overload Class:	2	XX + STO
Preferred System:	1	0 (B) or 1 (A) + STO
Group ID Format:	2	XX + STO

Press SEND to write data in NAM.

New Unlock Code: Current 4-digit unlock code + FCN + 0 + new 4-digit unlock code
System Select: 4-digit unlock code + FCN + * + * + *, etc. (the following options will be displayed) + STO (to enter selection)

Options:	Normal	Standard (AB or BA)
	Pref Sys only	A only or B only
	Pref Sys Home	Home
	Alternate Only	B only or A only
	Alternate	BA or AB

Press STO to enter selection and exit.

CLARION 1100 CT

NAM Type:	Tri-State
Manufacturer:	Clarion
Programmer:	Motorola 1801 -- Celnam, Curtis or Bytek
ESN Prefix DEC:	140
HEX:	8C
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	832
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	08

Horn Alert: L/H + HORN/# (simultaneously)

New Unlock Code: NAM

System Select: FUNC + 2 + 0 + SRCH + SRCH + SRCH (to scroll)

(one of the following will appear)

Standard	(AB or BA)
Invert	(BA or AB)
Home	
Roam	(A only or B only)

Press STO to enter selection

CLARION 3000 CT

NAM Type:	EE Prom
Manufacturer:	Clarion
Programmer:	Handset
ESN Prefix DEC:	166
HEX:	A6
ESN, S/N Match Required:	Yes
Available Channels:	832

Programming Sequence: Power ON (Err 3 may by displayed if phone has not been programmed)
Press CLR + * + * + 123123 + # + # (within 10 seconds)
0 will be displayed
Select NAM 1 thru 3 by entering 1, 2 or 3
Press RCL + step number + enter new information + STO (for each step)
(To enter unlock code 123; RCL +) + 123 + STO)
Power OFF to exit program mode

Unlock Code:	3 or 4	XXX or XXXX + STO
System ID Format:	5	XXXXX + STO
Local Use Option:	1	1 + STO
MIN Option:	1	1 + STO
Mobile Number:	10	XXX-XXX-XXXX + STO
Station Class:	2	08 + STO
Initial Paging Channel:	3	333 or 334 + STO
Access Overload Class:	2	XX + STO
Preferred System:	1	1 (A) or 0 (B) + STO
Group ID Format:	2	XX + STO

Power OFF to exit program mode.

CLARION 5100CT and 5200CT

NAM Type: EE Prom
Manufacturer: Clarion
Programmer: Keypad

ESN Prefix DEC: 166
HEX: A6
ESN, S/N Match Required: Yes

Stamped Model Number: None (handset is labeled 5100CT or 5200CT)

Available Channels: 832

Programming Sequence: Power ON (Err 3 may be displayed if phone has not been programmed)
Press CLR + * + * + 123123 + # + # (within 10 seconds)
0 will be displayed
Select NAM 1 thru 3 by entering 1, 2 or 3
Press RCL + step number + enter new information + STO (for each step)
(to enter station class; RCL + 5 + 08 + STO)
Power OFF to exit program mode

Unlock Code:	3or4	XXX or XXXX + STO
System ID Format:	5	XXXXX + STO
Local Use Option:	1	1 + STO
MIN Option:	1	1 + STO
Mobile Number:	10	XXX-XXX-XXXX + STO
Station Class:	2	08 + STO
Initial Paging Channel:	3	333 or 334 + STO
Access Overload Class:	2	XX + STO
Preferred System:	1	1 (A) or 0 (B) + STO
Group ID Format:	2	XX + STO

Power OFF to exit program mode.
Display ESN: FCN + 6
Horn Alert: FCN + 8 + "+ or -"
New Unlock Code: NAM
System Select: FCN + 4 + "+ or -" (to scroll choices) + STO
Options include: AB
BA
A only
B only
Home
SID (enter specific system ID)
Press STO to enter selection.

Self-diagnostic error codes:

Error	Cause
Error 1	Synthesizer Lock
Error 2	Power Monitor
Error 3	NAM
Error 4	ESN
Error 5	Non-volatile Memory
Error 6	ROM
Error 7	CBUS
Error 8	SIO
Error 9	EPROM
Error 0	Not used

Back Light Blinks Handset LCD Driver

CMTELECOM AR 3800 MOBILE/TRANSPORTABLE

NAM Type: EEPROM
Manufacturer: CMTELECOM
ESN Prefix: Dec 153 HEX 99
ESN/Serial Number Match: yes

Proagramming Sequence:

Power ON
Lock Phone: FUNC + 1 + 1 (press 1 until "F-Lock" displays) + SND
Enter Password: * + 5965 ("Conf 3800" will display, else Enter Password * + 0188)
Press VOL UP or DOWN keys to increment steps
RCL + 2 digit step # to reach specific parameters
SND must be pressed to save info after each step
To store complete NAM info press END

Step	# of digits	
1 Mobile Number 1	10	XXX-XXX-XXXX+SND+VOL UP
2 System ID 1	5	XXXXX + SND + VOL UP
3 Init. paging ch 1	3	333 or 334 + SND + VOL UP
4 Acces Overload 1	2	XX + SND + VOL UP
5 Group ID 1	2	XX + SND + VOL UP
6 Local Use 1	1	1(SND to toggle) + VOL UP
7 System Select 1	1	0 = 0+SND+VOL UP 1 = BA+SND+VOL UP 2 = A Only + SND +VOL UP 3 = B Only +SND +VOL UP 4 = Home +SND +VOL UP
8,9 Not Used		VOL UP
10 Mobile Number 2	10	XXX-XXX-XXXX+SND+VOL UP
11 System ID 2	5	XXXXX+SND+VOL UP
12 Init pagin Chan	3	333 or 334 +SND +VOL UP
13 Access overld 2	2	XX + SND + VOL UP
14 Group ID2	2	XX + SND + VOL UP
15 Local use 2	1	1 (SND to toggle) + VOL UP
16 System Select 2	1	0=AB+SND+VOL UP 1=BA+SND+VOL UP 2=A Only+SND+VOL UP 3=B ONLY+SND+VOL UP 4=HOME+SND+VOL UP
17 Future Use	1	0+SND+VOL UP
18 Power Save	1	0(Dis) or 1(Enable)+SND+VOL UP
19 Syst ID indibit	5	XXXXX+SND+VOL UP
20 Prog Password	5	Leave at Factory Set Number + VOL UP

```
Horn Alert: FUNC + 4+SND
New Unlock Code: NAM
System Select: FUNC+ (ALPHA to scroll)
          PrefA AB
          PrefB BA
          Only A
          Only B
          Only H Home
     SND to enter selection
     CLR to exit
```

DIAMONDTEL (MITSUBISHI) MESA 52 and 55 (Handset Programming)

NAM Type:	Tri-State
Manufacturer:	Mitsubishi
Programmer:	Handset (phone can also be programmed with NAM, see MESA 40, 50, 52 and 55 programming)
ESN Prefix DEC:	134
HEX:	86
ESN, S/N Match Required:	No
Programmable Handset:	Yes
Available Channels:	666
Programming Sequence:	Power ON (hold for 1 second) Depress and hold CLR while keying 1951426 or 8291112 (if phone has been programmed 3 times) must be entered within 10 seconds Press SEND to enter data and increment CLR may be used to correct an entry Write NAM information with END key

Mobile Number:	10	XXX-XXX-XXXX + SEND
Security Code:	3	XXX + SEND
System ID Format:	5	XXXXX + SEND
Local Use Option:	1	1 + SEND
MIN Option:	1	1 + SEND
Initial Paging Channel:	4	0333 or 0334 + SEND
Access Overload Class:	2	XX + SEND
Preferred System:	1	0 (B) or 1 (A) + SEND
Group ID Format:	2	XX + SEND
End-to-End Signalling:	1	1 + SEND
Handsfree Option:	1	1 (if equipped) + SEND
Roam Inhibit:	1	0 or 1 + SEND
Aux Options:	2	00 to 07[1] + SEND
Aux Options:	2	00 to 07[2] + SEND

Aux Options [1]

	Second Handset	Non-Resettable Cumulative Timer	Extended Timer	DTMF
01	x	x		
02		x		
03	x	x		
04			x	
05	x		x	
06		x	x	
07	x	x	x	

Aux Options [2]

	Cumulative Timer Increment
00	60 second
01	30 second
02	20 second
03	15 second
04	12 second
05	10 second
06	6 second
07	1 second

Horn Alert: FCN + 4

New Unlock Code: FCN + 1 + 3-digit security code (current unlock code will appear) + new 3-digit unlock code + CLR

System Select: FCN + # + # + #, etc. (the following will be displayed):

Pref A
Pref B
Only A
Only B
H Only

Press CLR to enter selection and exit.

DIAMONDTEL (MITSUBISHI) MESA 40. 50. 51 and 55 (NAM PROGRAM)
* (Mesa 52 and 55 can be programmed either with a NAM or from the handset.) *

NAM Type:	Tri-State
Manufacturer:	Mitsubishi
Programmer:	Motorola 1801 -- Celnam, Curtis, or Handset (51 and 55 only)
ESN Prefix DEC:	134
HEX:	86
ESN, S/N Match Required:	No
Programmable Handset:	52 and 55 only (see next set of instructions)
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00
Horn Alert:	MESA 40: HORN MESA 50, 52, and 55: FCN + 4
New Unlock Code:	MESA 40 and 50: NAM MESA 52 and 55: FCN + 1 + 3-digit security code (current Unlock Code will appear) + new 3-digit Unlock Code + CLR
System Select:	MESA 40: STO + # + # + #, etc. (one of the following will appear) AAABBB or BBBAAA Standard BBBAAA or AAABBB Alternate C50A Home A only C50B Home B only AAAAAA A only BBBBBB B only MESA 50, 52, and 55: FCN + # + # + # (one of the following will appear) Pref A, Pref B, Only A, Only B, H Only Press CLR to enter selection and exit.

DIAMONDTEL MESA 60, 60X and 80X PORTABLES

NAM Type:	E2 PROM
Manufacturer:	Mitsubishi
Programmer:	Handset
ESN Prefix DEC:	134
HEX:	86
ESN, S/N Match Required:	No
Programmable Handset:	Yes
Available Channels:	666

Programming Sequence: Power ON (END/FCN + 0, simultaneously)
Hold CLR and enter 6926232 (within 10 seconds)
Enter step information then press SND
Press END to write NAM information

Mobile Number:	10	XXX-XXX-XXXX
Security Code: 4		XXXX
System ID Format:	5	XXXXX
Local Use Option:	1	1
MIN Option:	1	1
Initial Paging Channel:	3	333 or 334
Access Overload Class:	2	XX
Preferred System:	1	0 (B) or 1 (A)
Group ID Format:	2	XX
End-to-End Signalling:	1	1
Roam Inhibit:	1	0
A/B Selectable:	1	1
Auto Lock:	1	0
Aux:	1	0

New Unlock Code: FCN + STO + 4-digit security code (NAM)
+ new 3-digit unlock code

System Select: FCN + 1 + X

- X=0 AB or BA Standard
- X=1 BA or AB Alternate
- X=2 Home
- X=3 Pref Only
- X=4 Non-Pref Only

DIAMONDTEL MESA 90X and 99X PORTABLES

NAM Type: E2 Prom
Manufacturer: Mitsubishi
Programmer: Handset

ESN Prefix DEC: 134
HEX: 86
ESN, S/N Match Required: No
Programmable Handset: Yes
Available Channels: 832
Programming Sequence: Power ON
Depress and hold END while inputting 5132920 or 6972814 (must be input within 10 seconds)
Enter information for each step then press SEND to increment
Press END to write NAM information

step			
1	Dual Number:	1	0 (1 number) or 1 (2 numbers) + SEND
2	Mobile Number:	10	XXX-XXX-XXXX + SEND
3	System ID Format:	5	XXXXX + SEND
4	Local Use Option:	1	1 + SEND
5	MIN Option:	1	1 + SEND
6	Initial Paging Channel:	4	333 or 334 + SEND
7	Access Overload Class:	2	XX + SEND
8	Preferred System:	1	0 (B) or 1 (A) + SEND
9	Group ID Format:	2	XX +SEND
10	Roam Inhibit:	1	0 + SEND
11	VOX (DTX):	1	(0 or 1) + SEND
12	Auto Retry:	1	(0 or 1) + SEND
13	2 Mobile Number:	10	XXX-XXX-XXXX + SEND
14	2 System ID Format:	5	XXXXX + SEND
15	2 Local Use Option:	1	1 + SEND
16	2 MIN Option:	1	1 + SEND
17	2 Initial Paging Channel:	4	0333 or 0334 + SEND
18	2 Access Overload Class:	2	XX + SEND
19	2 Preferred System: (90X only)	1	0 (B) or 1 (A) + SEND
20	Group ID Format:	2	XX + SEND
21	2 Roam Inhibit:	1	(0 or 1) + SEND
22	2 VOX (DTX):	1	(0 or 1) + SEND
23	2 Auto Retry:	1	(0 or 1) + SEND
24	Security Code:	4	XXXX + SEND
25	End-to-End Signalling:	1	1 + SEND
26	Continuous DTMF:	1	(0 or 1) + SEND
27	Auto Lock:	1	(0 or 1) + SEND
28	Booster:	1	0 + SEND
29	Audible Timer: (90X only)	1	(0 or 1) + SEND

Press END to exit program mode.

CHARGE BATTERY BEFORE PROGRAMMING PHONE. DO NOT POWER DOWN OR DISCONNECT POWER WHILE IN PROGRAM MODE.

Display ESN: Power ON
Hold END key while inputting 09446335
Press 18 + SEND (to display ESN in hex)
Power OFF to exit programming mode

New Unlock Code: FCN + 7 + 4-digit security code (NAM)
+ new 3-digit unlock code

System Select: FCN + 1 + X

X=0 AB or BA Standard
X=1 BA or AB Alternate
X=2 Home
X=3 Pref Only
X=4 Non-pref Only

Press CLR to exit.

DIAMONDTEL MESA 92 TRANSPORTABLE/MOBILE

```
                NAM Type:  EE Prom
            Manufacturer:  Mitsubishi
              Programmer:  Handset

       ESN Prefix   DEC:  134
                    HEX:  86
 ESN, S/N Match Required:  No
 Stamped Model # : 1st 2 digits of serial # are 92
    Programmable Handset:  Yes
      Available Channels:  832
    Programming Sequence:  Power ON
                  Depress and hold END while inputting 1951426 or
                           8291112 (if phone has been programmed 3x)
                           (enter within 10 seconds)
                  Enter information for each step then press SEND
                           to increment
                  Press END to write NAM information
step                              # of digits
1            Dual Number:  1   0 (1 number) or 1 (2 numbers) + SEND
2          Mobile Number:  10   XXX-XXX-XXXX + SEND
3        System ID Format:  5    XXXXX + SEND
4        Local Use Option:  1    1 + SEND
5             MIN Option:  1    1 + SEND
6    Initial Paging Channel:  4   0333 or 0334 + SEND
7     Access Overload Class:  2   XX + SEND
8          Group ID Format:  2   XX +SEND
9 (note1)  Timer increment:  1   0 + SEND
    (if step 1 was 0  then continue at step 20)
10         2 Mobile Number:  10   XXX-XXX-XXXX + SEND
11       2 System ID Format:  5   XXXXX + SEND
12       2 Local Use Option:  1   1 + SEND
13            2 MIN Option:  1   1 + SEND
14  2 Initial Paging Channel:  4   0333 or 0334 + SEND
15   2 Access Overload Class:  2   XX + SEND
16         Group ID Format:    2   XX + SEND
17  (note 1) Timer increment:
18       Security Code: 4     XXXX+SEND
19                 VOX: 1     (0 OR 1) + SEND
20      2 Roam Inhibit: 1     (0 or 1) + SEND
21     Continuous Tone: 1     (0 or 1) + SEND
22   Disable Cumulative: 1    (0 or 1) + SEND
23  Disable ignition sense: 1 (0 or 1) + SEND
24 Disable own # display: 1   (0 or 1) + SEND
25          SID Lockout: 1    (0 or 1) + SEND
26       Dual Handset:   1    (0 or 1) + SEND
27   RJ11 option:        1    (0 or 1) + SEND

         Press END to exit program mode.
```

New Unlock Code: FCN + 7 + 4-digit security code (NAM)
+ new 3-digit unlock code
System Select: FCN + 1 + X

X=0 AB or BA Standard
X=1 BA or AB Alternate
X=2 Home
X=3 Pref Only
X=4 Non-pref Only

Press CLR to exit.

DIAMONDTEL MESA 95 TRANSPORTABLE

```
                  NAM Type:  EE Prom
              Manufacturer:  Mitsubishi
                Programmer:  Handset
        ESN Prefix   DEC:  134
                     HEX:  86
 ESN, S/N Match Required:  No
    Programmable Handset:  Yes
      Available Channels:  832
    Programming Sequence:  Power ON
                  Depress and hold END while inputting 1951426 or
                           8291112 (if phone has been programmed 3x)
                           (enter within 10 seconds)
                  Enter information for each step then press SEND
                           to increment
                  Press END to write NAM information

step                              # of digits
1             Dual Number:  1  0 (1 number) or 1 (2 numbers) + SEND
2              Mobile Number:  10  XXX-XXX-XXXX + SEND
3            System ID Format:  5   XXXXX + SEND
4            Local Use Option:  1   1 + SEND
5                 MIN Option:  1   1 + SEND
6      Initial Paging Channel:  4   0333 or 0334 + SEND
7       Access Overload Class:  2   XX + SEND
8          Preferred system 1:  1   (0) B or 1 (A) + SEND
9             Group ID Format:  2   XX +SEND
10 (note1)    Timer Increment:  1  0 (0-7) + SEND
11   (if step 1 was 0  then continue at step 20)
12            2 Mobile Number:  10  XXX-XXX-XXXX + SEND
13         2 System ID Format:  5   XXXXX + SEND
14         2 Local Use Option:  1   1 + SEND
15              2 MIN Option:  1   1 + SEND
16  2 Initial Paging Channel:  4   0333 or 0334 + SEND
17   2 Access Overload Class:  2   XX + SEND
18     Preferred System 2:  1 0(B) or 1(A)+ SEND
19            Group ID Format:  2   XX + SEND
20  (note 1) Timer increment: 2    0(0-7) + SEND
21        Security Code: 4    XXXX+SEND
22      End-End Signaling: 1  1 + SEND
23                VOX: 1  0(0 OR 1) + SEND
24             Handsfree: 1    0(0 OR 1) + SEND
25        2 Roam Inhibit:       1        0(0 or 1) + SEND
26      Continuous Tone: 1    0(0 or 1) + SEND
27       Disable Cumulative: 1     0(0 or 1) + SEND
28  Disable ignition sense: 1      0(0 or 1) + SEND
29              Dual Handset:1      0(0 or 1) + SEND

         New Unlock Code:  FCN + 1 + 4-digit security code (NAM)
                          + new 3-digit unlock code + CLR
           System Select:  FCN + # + #... (press CLR to select)
```

FUJITSU F80M-360

NAM Type:	Fujitsu
Manufacturer:	Fujitsu
Programmer:	Curtis or Bytek
ESN Prefix DEC:	133
HEX:	85
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
System ID Format:	XXXXX
Horn Alert Option:	1
Handsfree Option:	0 (disable) or 1 (enable)
End-to-End Signalling:	1
Repertory Option:	1
Group ID Format:	XX
Access Overload Class:	XX
Station Class:	00
Local Use:	1
MIN Option:	1
Initial Paging Channel:	333 or 334
Preferred System:	0 (B) or 1 (A)

Determine software version from IC 2 on logic board before setting the option bits. Last three digits on the PROM will be 003 or 004 to indicate the software level.

Option Bits for Hex Address 13

Bit Location	Curtis Location	Software Version 003	Software Version 004
B0	37	Call in Absence	Call in Absence
B1	38	Expanded Memory (00-39)	Lock Feature Bit-A
B2	39	DTMF from Memory Locations (30-39)	Lock Feature Bit-B
B3	40	System Select	Not Used
B4	41	Not Used	Expanded Memory (00-39)
B5	42	Not Used	DTMF from Memory Locations (30-39)
B6	43	Not Used	Call Timer Bit A
B7	44	Not Used	Call Timer Bit B

Lock Feature Bit A	Lock Feature Bit B		Call Timer Bit A	Call Timer Bit B	
0	0	Outgoing	0	0	6-second
0	1	Incoming	0	1	15-second
1	0	Auto Outgoing	1	0	30-second
1	1	Auto Incoming	1	1	60-second

FUJITSU 362 (COMMANDER) and 362A (COMMANDER II)

NAM Type:	Fujitsu
Manufacturer:	Fujitsu
Programmer:	Curtis or Bytek
ESN Prefix DEC:	133
HEX:	85
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX or XXXX (If a 4-digit Unlock Code is used, do NOT program the first digit as 0)
System ID Format:	XXXX
Horn Alert Option:	1
Handsfree Option:	0 (Enabled from Handset)
End-to-End Signalling:	1
Repertory Option:	1
Group ID Format:	XX
Access Overload Class:	XX
Station Class:	0000
Local Use Option:	1
MIN Option:	1
Initial Paging Channel:	333 or 334
Preferred System:	1 (A) or 0 (B)
Horn Alert:	F + # (Aux)
New Unlock Code:	NAM
System Select:	F + 1 + X X=1 (A then B) X=2 (B then A) X=3 (A only) X=4 (B only) X=5 (home)

FUJITSU 364 (COMMANDER IIX) and 170 (PORTABLE)

NAM Type:	E2 Prom
Manufacturer:	Fujitsu
Programmer:	Handset
ESN Prefix DEC:	133
HEX:	85
ESN, S/N Match Required:	Yes (manufacturer prefix + last 4 or 5 digits)
Programmable Handset:	Yes
Available Channels:	832

Programming Sequence:
Power ON
F + LOCK
Power OFF
Power ON
+ 626 + # + 7764726 (within 10 seconds)
Hold * key until tone stops
Enter data for each step then press STOR
Press SEND to write data

1	System ID Format:	5	XXXXX	
2	Local Use Option:	1	1	
3	MIN Option:	1	1	
4	Mobile Number:	10	XXX-XXX-XXXX	
5	Station Class:	2	08 (mobile) or 14 (portable)	
6	Initial Paging Channel:	3	333 or 334	
7	Access Overload Class:	2	XX	
8	Preferred System:	1	1 (A) or 0 (B)	
9	Group ID Format:	2	XX	
10	Lock:	3 or 4		XXX or XXXX
11	Call Timer:	1	4	
12	Auto Lock:	1	1	
13	Call Restriction:	1	1	

Call Timer - 1 Timer Off
2 6-seconds
3 30-seconds
4 60-seconds

Auto Lock - 1 Manual lock, no out
2 Manual lock, no calls
3 Auto lock, no out
4 Auto lock, no calls

Call Restriction - 1 No restriction
2 No memory dialing
3 No long-distance
4 Both 2 and 3
5 Memory calls only

Programming steps for NAMs 2 thru 4: Power ON
Unlock phone (if locked)
F + 7 + (NAM 2, 3 or 4)
F + LOCK
Power OFF
Power ON
Follow programming code and steps from previous page

Horn Alert (364 only): F + #/AUX
New Unlock Code: NAM
System Select: F + 1 + X
X=1 AB - Pref A
X=2 BA - Pref B
X=3 A only
X=4 B only
X=5 Home

To confirm setting, press RCL + F + X

FUJITSU 364A (ST, LT, FX, DX, and XL)

NAM Type:	EEPROM
Manufacturer:	Fujitsu
Programmer:	Handset
ESN Prefix DEC:	133
HEX:	85
ESN, S/N Match Required:	Yes (manufacturer prefix + last 4 or 5 digits)
Programmable Handset:	Yes
Available Channels:	832

Programming Sequence:
Power ON
F + LOCK
Power OFF
Power ON
+ 626 + # + 7764726 (within 10 seconds)
Hold * key until tone stops
Enter data for each step then press STOR
Vol UP or DN arrows can be used to scroll
Press SEND to write data

Step		# of Digits		
1	System ID Format:	5	XXXXX	
2	Local Use Option:	1	1	
3	MIN Option:	1	1	
4	Mobile Number:	10	XXX-XXX-XXXX	
5	Station Class:	2	08 (mobile) or 14 (portable)	
6	Initial Paging Channel:	3	333 or 334	
7	Access Overload Class:	2	XX	
8	Preferred System:	1	1 (A) or 0 (B)	
9	Group ID Format:	2	XX	
10	Unlock Code:	3 or 4		XXX or XXXX
11	Call Timer:	1	4	
12	Auto Lock:	1	1	
13	Call Restriction:	1	1	
14	System ID Inhibit #:	5	XXXXX	
15	System ID Inhibit #:	5	XXXXX	
16	System ID Inhibit #:	5	XXXXX	

Call Timer Increment - 1 Timer off
2 6-seconds
3 30-seconds
4 60-seconds

Auto Lock - 1 Manual Lock, no out
2 Manual Lock, no calls
3 Auto Lock, no out
4 Auto Lock, no calls

Call Restriction - 1 No restriction
2 No memory dialing
3 No long-distance
4 Both 2 and 3
5 Memory calls only

Programming Instructions NAMs 2 thru 4: Power ON
Unlock phone (if locked)
F + 7 + (NAM 2, 3 or 4)
F + LOCK
Power OFF
Power ON
Follow programming code and steps from previous page

Horn Alert: F + #
New Unlock Code: NAM
System Select: F + 1 + X

X=1 AB - Pref A
X=2 BA - Pref B
X=3 A only
X=4 B only
X=5 Home

To confirm setting, press RECL + F + X

FUJITSU POCKET COMMANDER

NAM Type: EEProm
Manufacturer: Fujitsu
Programmer: Handset

ESN Prefix DEC: 133
HEX: 85
ESN, S/N Match Required: Yes (manufacturer prefix + last 6 digits)

Stamped Model Number: F80P-171

Available Channels: 832

Programming Sequence: Power ON
F + LOCK
Power OFF
Power ON
+ 626 + # + 7764726 (within 10 seconds)
Hold * key until tone stops
Enter data for each step then press STOR
Vol UP or DN arrows can be used to scroll
Press SEND to write data

Step		# of Digits		
1	System ID Format:	5	XXXXX	
2	Local Use Option:	1	1	
3	MIN Option:	1	1	
4	Mobile Number:	10	XXX-XXX-XXXX	
5	Station Class:	2	08 (mobile) or 14 (portable)	
6	Initial Paging Channel:	3	333 or 334	
7	Access Overload Class:	2	XX	
8	Preferred System:	1	1 (A) or 0 (B)	
9	Group ID Format:	2	XX	
10	Unlock Code:	3 or 4		XXX or XXXX
11	Call Timer:	1	4	
12	Auto Lock:	1	1	
13	Call Restriction:	1	1	
14-20	System ID Search:	5	XXXXX	
21-28	System ID Inhibit #:	5	XXXXX	

Call Timer Increment - 1 Timer off
2 6-seconds
3 30-seconds
4 60-seconds

Auto Lock - 1 Manual Lock, no out
2 Manual Lock, no calls
3 Auto Lock, no out
4 Auto Lock, no calls

Call Restriction - 1 No restriction
2 No memory dialing
3 No long-distance
4 Both 2 and 3
5 Memory calls only

Programming Instructions NAMs 2 thru 4: Power ON
Unlock phone (if locked)
F + 7 + (NAM 2, 3 or 4)
F + LOCK
Power OFF
Power ON
Follow programming code and steps from previous page

Horn Alert: F + #
New Unlock Code: NAM
System Select: F + 1 + X

X=1 AB - Pref A
X=2 BA - Pref B
X=3 A only
X=4 B only
X=5 Home

To confirm setting, press RECL + F + X

GATEWAY CP900 PORTABLE

NAM Type:	EEPROM
Manufacturer:	Gateway
Programmer:	Keypad
ESN Prefix DEC:	147
HEX:	93
ESN, S/N Match Required:	Yes (drop last digit)
Stamped Model Number:	CP900
Available Channels:	832
Programming Sequence:	Power OFF

Power ON
Press MENU ("Enter Number" will be displayed)
Enter 0 + 9 (ON or OFF will be displayed)
Select NAM 1 or 2: OFF - NAM 1
ON - NAM 2
Press VOL UP or DOWN to toggle choices
Press CLR
Press MENU + 9 + 9 + current unlock code
(factory preset 9999)
PROGRAM NAM will be displayed
Enter each parameter then press SEND/ANSWER to increment
Once the last step is entered and SEND/ANSWER is pressed, the phone is automatically programmed
END may be pressed at any time to exit the programming mode without changing the data

Step		# of Digits	
1	System ID Format:	6	XXXXXX + SEND/ANSWER
2	Mobile Number:	10	XXX-XXX-XXXX + SEND/ANSWER
3	Initial Paging Channel:	4	0333 or 0334 + SEND/ANSWER
4	Access Overload Class:	2	XX + SEND/ANSWER
5	Group ID Format:	2	XX + SEND/ANSWER
6	MIN Option:	1	1 + SEND/ANSWER
7	Local Use Option:	1	1 + SEND/ANSWER
8	System Select:	1	1 (A) or 2 (B) + SEND/ANSWER

Phone is programmed when the final step is entered.

New Unlock Code: MENU + 0 + 5 + current 4-digit unlock code + new 4-digit unlock code + CLR
System Select: MENU + 0 + 8 + VOL UP or DOWN (to scrol choices)
A Only
B Only
Normal (AB or BA)
Home
Press CLR to exit.

GE CF 1000, CF 2000, 3000 SERIES, 4000 SERIES, EXECUTIVE XR and MONOGRAM XR

NAM Type:	EE Prom
Manufacturer:	GE
Programmer:	Handset
ESN Prefix DEC:	146
HEX:	92
ESN, S/N Match Required:	Yes
Programmable Handset:	Yes
Available Channels:	GE 1000 and 2000 - 666 GE 3000, 4000, EXECUTIVE XR and MONOGRAM XR - 832
Programming Sequence:	Power ON Hold CLR while inputting 923885 (within 10 seconds) ESN will be displayed Press SEND to enter data and increment Press END to write NAM information

1	Mobile Number:	10		XXX-XXX-XXXX
2	Unlock Code:	3		XXX
3	System ID Format:	5		XXXXX
4	Local Use Option:	1		1
5	MIN Option:	1		1
6	Initial Paging Channel:	3		333 or 334
7	Access Overload Class:	2		XX
8	Preferred System:	1		0 (B) or 1 (A)
9	Group ID Format:	2		XX
10	Horn Alert:	1		1
11	Handsfree Option:	1		0, 1 or 2 (MONOGRAM CRADLE DESIGN H/F)
12	Alternate Lock:	3		Don't use same code as unlock
	(not applicable for EXECUTIVE XR)			
(for 4000 and EXECUTIVE XR only)				
13	Dual NAM:	1		0 (1 number) 1 (2 numbers)

Horn Alert (if equipped): Press and hold END key. While holding END key, depress 9. On most models, this feature does NOT cancel when the ignition is turned on.

New Unlock Code: NAM

System Select: Press and hold END key. While holding END key, depress 4. Use volume rocker button to step through selections.

0 Pref then Non-pref
1 Pref only
2 Home only
3 Preferred Roam only
4 Non-pref then Pref
5 Non-pref only

Press CLR to exit.

GE MINI II

```
                NAM Type:  EE Prom
            Manufacturer:  Mitsubishi
              Programmer:  keypad

        ESN Prefix   DEC:  134
                     HEX:  86
 ESN, S/N Match Required:  yes
    Programmable Handset:  Yes
      Available Channels:  832
    Programming Sequence:  Power ON
                 Depress and hold END while inputting 6282905
                          (enter within 10 seconds)
                 Enter information for each step then press SEND
                          to increment (CLR to correct before SND)
                 Press END to write NAM information

step                            # of digits
1              Dual Number:1  0 (1 number) or 1 (2 numbers) + SEND
2              Mobile Number1:10   XXX-XXX-XXXX + SEND
3           System ID Format:  5   XXXXX + SEND
4           Local Use Option:  1   1 + SEND
5                 MIN Option:  1   1 + SEND
6     Initial Paging Channel:  4   0333 or 0334 + SEND
7      Access Overload Class:  2   XX + SEND
8         Preferred system 1:  1   (0) B or 1 (A) + SEND
9            Group ID Format:  2   XX +SEND
10        Roam Inhibit 1: 1         0 or 1 (normal 0)
11   Discontinuous Trans 1: 1       0 or 1
12       Automatic Retry 1: 1       0 or 1
13           2 Mobile Number:  10  XXX-XXX-XXXX
14        2 System ID Format:  5   XXXXX
15        2 Local Use Option:  1   0 or 1
16              2 MIN Option:  1   0 or 1
17  2 Initial Paging Channel:  4   0333 or 0334
18   2 Access Overload Class:  2   XX
19     Preferred System 2:  1 0(B) or 1(A)
20           Group ID Format:  2   XX
21        Roam Inhibit 2: 1         0 or 1 (normal 0)
22   Discontinuous Trans 2: 1       0 or 1
23       Automatic Retry 2: 1       0 or 1
24         Security Code: 4    XXXX+SEND
25       End-End Signaling: 1  1 + SEND
26        Continuous DTMF: 1   0 or 1
27         Automatic Lock: 1   0 or 1
28          Announce Beep: 1   1
29        Booster Option: 1    0 or 1

Press END to write data into NAM
```

```
New Unlock Code:  FCN + 7 + 4-digit security code (NAM)
                + new 3-digit unlock code + CLR
  System Select:  FCN + 1 + X
                X=0 Standard
                  1 Alternate
                  2 Home
                  3 Pref (A only/B only)
                  4 Non-Pref(B only/A only)
```

GE MINI II

```
                NAM Type:  EE Prom
            Manufacturer:  Mitsubishi
              Programmer:  keypad
      ESN Prefix   DEC:  134
                   HEX:  86
ESN, S/N Match Required:  yes
   Programmable Handset:  Yes
     Available Channels:  832
   Programming Sequence:  Power ON
                Depress and hold END while inputting 6282905
                          (enter within 10 seconds)
                Enter information for each step then press SEND
                         to increment (CLR to correct before SND)
                Press END to write NAM information

step                          # of digits
1             Dual Number:1   0 (1 number) or 1 (2 numbers) + SEND
2             Mobile Number1:10   XXX-XXX-XXXX + SEND
3          System ID Format:   5   XXXXX + SEND
4          Local Use Option:   1   1 + SEND
5                MIN Option:   1   1 + SEND
6     Initial Paging Channel:   4   0333 or 0334 + SEND
7      Access Overload Class:   2   XX + SEND
8         Preferred system 1:   1   (0) B or 1 (A) + SEND
9            Group ID Format:   2   XX +SEND
10        Roam Inhibit 1: 1          0 or 1 (normal 0)
11  Discontinuous Trans 1: 1         0 or 1
12      Automatic Retry 1: 1         0 or 1
13          2 Mobile Number:   10  XXX-XXX-XXXX
14       2 System ID Format:   5   XXXXX
15       2 Local Use Option:   1   0 or 1
16             2 MIN Option:   1   0 or 1
17  2 Initial Paging Channel:   4   0333 or 0334
18   2 Access Overload Class:   2   XX
19     Preferred System 2:  1 0(B) or 1(A)
20           Group ID Format:   2   XX
21        Roam Inhibit 2: 1          0 or 1 (normal 0)
22   Discontinuous Trans 2: 1         0 or 1
23       Automatic Retry 2: 1         0 or 1
24        Security Code: 4     XXXX+SEND
25      End-End Signaling: 1   1 + SEND
26       Continuous DTMF: 1    0 or 1
27        Automatic Lock: 1    0 or 1
28         Announce Beep: 1    1
29        Booster Option: 1    0 or 1

Press END to write data into NAM
         New Unlock Code:  FCN + 7 + 4-digit security code (NAM)
                          + new 3-digit unlock code + CLR
           System Select:  FCN + 1 + X
```

GE STAR

NAM Type:	Tri-State
Manufacturer:	GE
Programmer:	Motorola - Celnam or Curtis
ESN Prefix DEC:	146
HEX:	92
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Manufacturer Options:

Hex Address	B7							B0
13	0	1	0	1	0	0	0	0
14	1	1	0	0	0	0	0	0

Description:

Address 13 - B6 External Repertory memory
B4 DTMF Format

Address 14 - B7 Clock
B6 Call Timer

Horn Alert: Press and hold END key. While holding END key, depress 9. This feature does not cancel when ignition is turned on.

New Unlock Code: NAM

System Select: Press and hold END key. While holding END key, depress 4. Use volume rocker button to step through selections.

0: Pref then Non-pref
1: Pref only
2: Home only
3: Preferred Roam only
4: Non-pref then Pref
5: Non-pref only

GOLDSTAR GM/GT 5000

NAM Type: EE PROM
Manufacturer: GOLDSTAR
Programmer: Handset
ESN Prefix: Dec 141 Hex 8D
ESN/Serial Number Match: Yes
Stamped Model Number: GM5000 or GT5000
Number of Channels: 832
Programming Sequence: Power ON
FCN + 4 + * (To Select Nam)
Enter Program Code: FCN + 99 + *("Enter Code Will Diplay") + 1234567890 + MEM
Code must be entered within 30 seconds
Mobile Number will display
Press MEM after entering each parameter to Store
Once parameter is stored, press Scroll UP or DN to view next parameter
Press CLR key to exit program mode WITHOUT changing any parameters

STEP		# of DIGITS	
1	Mobile Number	10	XXX-XXX-XXXX+MEM
2	System ID	5	XXXXX+MEM
3	Initial Page Channel	3	333 or 334+MEM
4	Access Overload	2	XX
5	Unlock Code	4	XXXX
6	Security Code	6	XXXXXX(Recommend Last 6 Digits of Mobile #) +MEM
7	Theft Alarm Disable Code	4	XXXX+MEM
8	Preferred System	1	[0(B) or 1(A)]+MEM
9	Station Class	1	0+MEM
10	Handsfree	1	[0(Disable) or 1(Enable)]+MEM
11	Local Use	1	1+MEM
12	MIN Opt	1	1+MEM
13	Horn Alert	1	1+MEM
14	Optional Speaker	1	1+MEM

Once Step 14 has been entered, display will show "Save to NAM?" Press MEM
to save NAM (and Program Phone) or CLR to Exit (without saving new info)
Horn Alert: FCN + 1 + Vol UP(To Scroll)("Horn Alert" will
display) + *(To Toggle) + MEM(To Store) + Turn Ignition Off
New Unlock Code: NAM
System Select: FCN + 2 + 6 Digit Security Code + MEM + Vol UP or DOWN(To Scroll)("System Select" will display)+ *(To Toggle Selections)
A Non-Wireline, B Wireline
A/B Pref Non-Wireline, B/A Pref Wireline
Home
Press MEM(To Store)
Press CLR(To Exit)

GTE METAL SERIES
(Bronze, Mercury and Silver)

Nam Type: Tri-State
Manufacturer: SUN MOON STAR
Programmer: MOTOROLA 1801-CELNAM, BYTEK OR CURTIS
ESN Prefix: Dec 178 Hex B2
ESN/Serial Number Match: Yes
Handset Programmable: No
Number of Channels: 832
Phone Number: XXX-XXX-XXXX
Lock Code: XXX or XXXX
MIN Opt: Enabled
Repertory Opt: Enabled
Handsfree: Disble (Enable if equipped)
Local Use: Enabled
System ID: XXXXX
Preferred System: A or B
Access Overload: XX
Group ID: XX
Initial Page Channel: 333 or 334
Station Class: 08

Manufacturer Options:

Hex Address	B7						BO
13	X	O	O	O	O	X	X	X

Hex Address 13

B7 16 digit dial from memory if enabled or 32 digit dial if zero is entered
B2 Program with 1 to enable special lock
B1 Program with 1 to enable partial lock
BO Program with 1 to enable roam inhibit

To disable any feature listed above, program bit with a zero.

Horn Alert:	F + 7
New Unlock Code:	NAM
System Select:	F + 5 + X
	X = 1 Standard (AB or BA)
	X = 2 Alternate (BA or AB)
	X = 3 Non Pref Only (A Only or B Only)
	X = 4 Pref Only
	X = 5 Home

GOLDSTAR GM/GT 5000

```
                NAM Type:  EE Prom
            Manufacturer:  GOLDSTAR
              Programmer:  Handset
       ESN Prefix   DEC:  141
                    HEX:  8D
ESN, S/N Match Required:  YES
   Stamped Model Number:  GM5000 or GT5000
   Programmable Handset:  Yes
     Available Channels:  832
   Programming Sequence:  Power ON
          FCN + 4+ *(To Select NAM)
          Enter Sequence: Fcn+99+*("enter code    w i l l
                           display")+1234567890+MEM
                           (within 30 seconds)
          Press MEM after entering each parameter
          Once parameter is entered,
          scroll UP/DN for next parameter
 Press CLR key to exit WITHOUT changing parameters

STEP                                  # of digits
1          Mobile Number:  10   XXX-XXX-XXXX
2       System ID Format:  5 XXXXX
3 Initial Paging Channel:  3 333 or 334
4  Access Overload Class:  2 XX
5            Unlock Code:  3 XXX
6          Security Code:  6 XXXXXX + MEM
7    Theft alarm disable:  4 XXXX+MEM
8       Preferred System:  1 0 (B) or 1 (A)
9          Station Class:  1 0+MEM
10             Handsfree:  1 0(disable)/1(enable)
11      Local Use Option:  1 1
12            MIN Option:  1 1
13             Horn Alert:  1    1+MEM
14            Opt Speaker:  1    1+MEM

Horn Alert : FCN + 1 + Vol UP(scroll)("horn alert" will
display)+*                          (To  Toggle)  +  MEM(to
store) + Turn Ignition Off
New Unlock Code:  NAM
System Select:  FCN + 2 + 6 Digit Security Code + MEM + Vol
UP or                        DOWN(to    scroll)("System
Select" will display) + *(to            toggle selections)
         A Non-wireline
         B Wireline
         A/B Pref Non-Wireline
         B/A Pref Wireline
         HOME
                             Press MEM(to store)
                             Press CLR(to Exit)
```

GLENAYRE GL300

See AT & T 1300

GTE METAL SERIES

NAM Type:	Tri-State
Manufacturer:	Sun Moon Star
Programmer:	Motorola1801-Celnam,Bytek,Curtis
ESN Prefix DEC:	178
HEX:	B2
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	832
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX or XXXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disable (Enable if equipped)
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	08

Manufacturer Options:

Hex Address	B7						B0
13	X	0	0	0	0	X	X X

Hex Address 13
B7 16-digit dial from memory if enabled or 32-digit dial if 0 is entered.
B2 Program with 1 to enable special lock.
B1 Program with 1 to enable partial lock.
B0 Program with 1 to enable roam inhibit.

To disable any feature listed above, program bit with a zero.

Horn Alert:	F + 7
New Unlock Code:	NAM
System Select:	F + 5 + X

X=1 Standard (AB or BA)
X=2 Alternate (BA or AB)
X=3 Non Pref Only (A only or B only)
X=4 Pref Only (B only or A only)
X=5 Home

HARRIS 4000 SERIES

NAM Type:	Tri-State
Manufacturer:	Harris
Programmer:	Motorola1801-Celnam,Curtis,Bytek
ESN Prefix DEC:	137
HEX:	89
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Horn Alert: Celebrity -- SEL + 0
CellPhone -- HORN
(Switch)
Custom -- STANDBY

New Unlock Code: NAM

System Select: Celebrity -- SEL + * + *
Repeat until one of the following appears:
A Pref (AB)
B Pref (BA)
A Only
B Only

CellPhone -- SEL + * AB
SEL + # BA
SEL + 0 + * A only
SEL + 0 + # B only

Custom -- Press A/B switch repeatedly.
One of the following will appear:
A Pref (AB)
B Pref (BA)
A Only
B Only
H Only (Home)
SID Only (Enter System ID)

HITACHI CR-111H TRANSPORTABLE

```
                NAM Type:  EEProm
            Manufacturer:  Hitachi
              Programmer:  Handset
       ESN Prefix   DEC:  132
                    HEX:  84
 ESN, S/N Match Required:  No
     Available Channels:  832
   Programming Sequence:  Power ON
                          Select a NAM (A or B):
                                  A-FCN 621# FCN, B-
FCN 622# FCN
                          Enter  Pregramming  Mode
with FCN 626 RCL
                          Enter Data at each Step
then Press Up of DOWN
                          Write NAM with FCN 626 STO


Step                                  # of Digits
1       System ID Format:  5 XXXXX
2       Local Use Option:  1 1
3            MIN Option:  1 1
4      System Select H/S:  1 1
5              Roam Inhibit:  1 0
6          Mobile Number:  10    XXX-XXX-XXXX
7          Station Class:  2 08 (mobile) or
                                  14 (portable)
8 Initial Paging Channel:  3 333 or 334
9  Access Overload Class:  2 XX
10      Preferred System:  1 1 (A) or 0 (B)
11       Group ID Format:  2 XX
12           Unlock Code:  3 or 4                  XXX or
XXXX
13         End-End Signaling:  1 1
14               Handsfree :  1 0 or 1

Horn Alert: N/A
New Unlock Code:  NAM

System Select:FCN+9+DOWN(DOWN to scroll system prompts)
                          Enter option: STO + FCN
```

HITACHI CR-2110H
PORTABLE

NAM Type: EE PROM
Manufacturer: HITACHI
Programmer: Handset
ESN Prefix: Dec 132 Hex 84
ESN/Serial Number Match: No
Handset Programmable: Yes
Number of Channels: 666

Programming Sequence: Power ON
Select NAM One or Two with Sequence A or B
A-OPT + DIAL + MAIN (for NAM 1)
B-OPT + DIAL + SUB (for NAM 2)
(Use OPT + 3 arrow keys to select functions from menu or screen)_
Enter Programming Mode with OPT 626 RCL
Press UP(# Key) or Down(*Key) to increment
Write NAM with OPT 626 STO

Step		# of Digits	
1	System ID	5	XXXXX
2	Local Use	1	1
3	MIN Opt	1	1
4	System Select from H/S	1	1
5	Roam Inhibit	1	0
6	Area Code	3	XXX
7	Phone Number	7	XXX-XXXX
8	Station Class	2	XX
9	Initial Page Channel	4	0333 or 0334
10	Access Overload	2	XX
11	Preferred System	1	0 (B) or 1 (A)
12	Group ID	2	XX
13	Lock Code	3	XXX
14	End-to-End Signaling	1	1
15	Handsfree	1	0 or 1

Press OPT + 626 + STO to enter contents and exit program mode

Horn Alert: N/A
New Unlock Code: NAM
System Select: OPT + SYST (Software Ke) + SCRL (Software Key) repeatedly. One of the following prompts will appear:

SYS A/SYS B/SYS AB/SYS BA
HOME
Press SELC (Software Key to enter selection)

HITACHI CR-211H AND CR-2121H PORTABLES

NAM Type: EE PROM
Manufacturer: Hitachi
Programmer: Handset
ESN Prefix: Dec 132 Hex 84
ESN/Serial Number Match: No
Handset Programmable: Yes
Number of Channels: 832

Programming Sequence: Power ON
Select NAM One or Two with Sequence A or B
A -OPT+DIAL+MAIN (for NAM 1)
B -OPT+DIAL+SUB (for NAM 2)
(Use OPT + 3 arrow keys to select functions from menu or screen)
Enter Programming Mode with OPT 626 RCL
Press Up(# Key) or Down(* Key) to increment
Write NAM with OPT 626 STO

Step		# of Digits	
1	System ID	5	XXXXX
2	Local Use	1	1
3	MIN Opt	1	1
4	System Select from H/S	1	1
5	Roam Inhibit	1	0
6	Phone Number	10	XXX-XXX-XXXX
7	Station Class	2	XX
8	Initial Page Channel	4	0333 or 0334
9	Access Overload	2	XX
10	Preferred System	1	0 (B) or 1 (A_
11	Group ID	2	XX
12	Lock Code	3	XXX
13	End-to-End Signaling	1	1
14	Handsfree	1	0 or 1

Press OPT + 626 + STO to enter contents and exit program mode

Horn Alert: N/A
New Unlock Code: NAM
System Select: OPT + SYST (Software Key) + SCRL (Software Key) repeatedly. One of the following prompts will appear:

SYS A/SYS B/SYS AB/SYS BA
HOME
Press SELC (Software Key to enter selection)

HITACHI CR-2110H PORTABLE

NAM Type: EEProm
Manufacturer: Hitachi
Programmer: Handset

ESN Prefix DEC: 132
HEX: 84
ESN, S/N Match Required: No
Available Channels: 666

Programming Sequence: Power ON
Select a NAM (A or B):
A-OPT+DIAL+MAIN, B-OPT+DIAL+SUB
(use OPT + 3 arrow keys to sel fcns from menu)
Enter Pregramming Mode with OPT 626 RCL
Press UP(#Key) or DOWN(*Key) to increment
Write NAM with OPT 626 STO

Step		# of Digits
1	System ID Format:	5 XXXXX
2	Local Use Option:	1 1
3	MIN Option:	1 1
4	System Select H/S:	1 1
5	Roam Inhibit:	1 0
6	Area Code:	3 XXX
7	Mobile Number:	7 XXX-XXXX
8	Station Class:	2 08 (mobile) or 14 (portable)
9	Initial Paging Channel:	3 333 or 334
10	Access Overload Class:	2 XX
11	Preferred System:	1 1 (A) or 0 (B)
12	Group ID Format:	2 XX
13	Unlock Code:	3 or 4 XXX or XXXX
14	End-End Signaling:	1 1

15 Handsfree : 1 0 or 1

Horn Alert: N/A

New Unlock Code: NAM

System Select:OPT+SYST(software Key)+SCRL(software Key)
repeat for system prompts.
SELC(to enter selection)

HITACHI CR-111H TRANSPORTABLE

```
                NAM Type:  EEProm
            Manufacturer:  Hitachi
              Programmer:  Handset

        ESN Prefix   DEC:  132
                     HEX:  84
 ESN, S/N Match Required:  No
      Available Channels:  832

    Programming Sequence:  Power ON
                           Select a NAM (A or B):
                                  A-OPT+DIAL+MAIN,
B-OPT+DIAL+SUB
                           (Use OPT + 3 arrow keys to
select from menu)
                           Enter  Pregramming  Mode
with OPT 626 RCL
                           Press Up(# Key) or DOWN(*
Key) to increment
                           Write NAM with OPT 626 STO


Step                                  # of Digits
1       System ID Format:  5 XXXXX
2       Local Use Option:  1 1
3            MIN Option:   1 1
4      System Select H/S:  1 1
5              Roam Inhibit:  1 0
6          Mobile Number:  10    XXX-XXX-XXXX
7          Station Class:  2 08 (mobile) or
                                  14 (portable)
8 Initial Paging Channel:  3 333 or 334
9  Access Overload Class:  2 XX
10      Preferred System:  1 1 (A) or 0 (B)
11       Group ID Format:  2 XX
12           Unlock Code:  3 or 4                  XXX or
XXXX
13         End-End Signaling:  1 1
14               Handsfree :  1 0 or 1
To enter data Press OPT+626+STO

Horn Alert: N/A

New Unlock Code:  NAM

System Select:OPT+SYST(software Key)+SCRL(software Key)
                           repeat for system prompts.
                           SELC(to enter selection)
```

HYUNDAI

See NOVATEL Aurora programming instructions.

INFINITI

See MOTOROLA Handset programming instructions.

Use Handset Type SCN 2144 or SCN 2278.

JAGUAR (Factory Phone)

See PANASONIC EB 311/EB 312

NAM Type:	Tri-State
Manufacturer:	E.F. Johnson
Programmer:	Motorola or Curtis
ESN Prefix DEC:	131
HEX:	83
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Option Bits:

Hex Address	B7							B0
13	1	1	1	1	0	1	1	1
14	0	0	0	1	1	1	1	0
15	1	1	0	0	0	0	0	0
16	0	1	1	0	1	0	0	0

Description:

Address 13 - B7 One Minute Reminder
B6 Call Timer
B5 Lock Option
B4 Speaker Mute
B2 Local Dial Tone
B1 Call in Absence Indicator
B0 Call Indicator

Address 14 - B4 Recall Accumulated Time
B3 Hold Option
B2 Digit Review

B1 DTMF Disable

Address 15 - B7 Diagnostic Features
B6 Failure Help Display

Addres 16 - B6 System Select Option
B5 DTMF Repertory Dialing
B3 System Indicator

Horn Alert: Horn Slide Switch on Handset
New Unlock Code: NAM
System Select: RCL + AUX + AUX, etc.
This will display one of the following:

A only (will allow long-distance forwarded calls)

PHo-B only (will allow long-distance forwarded calls)

ALL-Preferred then non-preferred (will allow long-distance forwarded calls)

in-A Only (no long-distance forwarded calls)

PH-B Only (no long-distance forwarded calls)

AL-Preferred then non-preferred (no long distance calls)

Press CLR to enter selection and exit A/B mode.

KENWOOD KMP F500 MOBILE and KMP H700 PORTABLE

Manufactured by NEC.
- KMP F500 programs and operates similar to the NEC 3800.

- KMP H700 is similar to the NEC P300.

Program adaptors (available from NEC or KENWOOD) are necessary to program both models.

LEXUS

See MOTOROLA Handset programming instructions.

Use Handset Type SCN 2301.

LUXCEL LXC/LXM/LXT 450

```
                NAM Type:  EEProm
            Manufacturer:  SHINTOM
              Programmer:  Handset

        ESN Prefix   DEC:  174
                     HEX:  AE
 ESN, S/N Match Required:  YES
      Available Channels:  832
    Stamped Model Number: 4x130511s

    Programming Sequence:  Power ON
                           FUNC + 5 to lock phone
                           Enter   Pregramming
Mode:FUNC+#+626+#+FUNC
                           Press SEND to advance past
Model #/sw vers
                           Press  SEND  to  adv  past
ESN(in HEX form)
                           Press SEND to adv/change
through parameters
                           Write NAM: END + FUNC +
END
                           Phone will initialize in
the Lock Mode(use Unlock #)


1                  Area Code:  3 XXX
2          Mobile Number:  7 XXX-XXXX
3       System ID Format:  5 XXXXX
4  Access Overload Class:  2 XX
5        Group ID Format:  2 XX
6       Local Use Option:  1 1
7             MIN Option:  1 1
8           Unlock Code:  3 XXX(preset 123)
9                 Auto Lock:  1 0(off)/1(on)
10 Call Restriction Code:  3 XXX(preset123)
11    Call counter Reset:  2 XX
12               Handsfree :  1 0 or 1
13                            Horn Alert:  11
14 Horn Alert Shutoff Timer:1    0-2hrs,1-4hr,2-8hr,3-no
limit
15  Cum.Call Timer Reset: 2  XX (preset 12)

Horn Alert: FUNC + 4 + Ignition Off

New Unlock Code:  NAM

System Select: FUNC + 7 (A then B) repeat to exit
                               FUNC + 7 (B then A) repeat to
exit
```

LUXCEL LXC/LXM/LXT 600

NAM Type: EEProm
Manufacturer: GOLDSTAR
Programmer: Handset

ESN Prefix DEC: 141
HEX: 8D
ESN, S/N Match Required: YES
Available Channels: 832
Stamped Model Number: GM5000 or GT5000

Programming Sequence: Power ON
FUNC + 4 + * (To select NAM)
Enter Pregramming Mode:FCN+99+*(display "enter code")
+1234567890 + MEM (enter within 30secs)(display mobile #) Press MEM after entering each parameter to store
Scroll UP or DOWN to view next parameter
CLR key to exit WITHOUT changes saved

Step		# of digits
1	Mobile Number:	10 XXX-XXX-XXXX + MEM
2	System ID Format:	5 XXXXX + MEM
3	Initial Paging channel:	3 333 or 334 + MEM
4	Access Overload Class:	2 XX + MEM
5	Unlock Code:	3 XXX(preset 123)
6	Security Code:	6 XXXXXX + MEM
7	Theft alarm dis:	4 XXXX + MEM
8	Prefferred System:	1 (0(B) or 1(A))+MEM
9	Station Class:	1 0 + MEM
10	Handsfree :	1 (0(disable) or 1(enable))+MEM
11	Local Use Option:	1 1 + MEM
12	MIN Option:	1 1 + MEM
13	Horn Alert:	11 + MEM
14	Optional Speaker:	1 1 + MEM

press MEM to save, CLR to exit

Horn Alert: FCN + 1 + Vol UP (scroll to "HORN ALERT")
+ *(to toggle selection)
New Unlock Code: NAM
System Select: FCN + 2 + 6 Digit Security Code + MEM + Vol UP or DOWN (to scroll)("system select" will display) + *(To Toggle Selections)

Press MEM (to Store)
Press CLR (to Exit)

MEI CT2000

NAM Type:	Tri-State
Manufacturer:	MEI
Programmer:	Motorola 1801 - Curtis or Bytek
ESN Prefix DEC:	167
HEX:	A7
ESN, S/N Match Required:	Yes (16700 + Serial Number)
Programmable Handset:	No
Stamped Model Number:	CT2000
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled (Enable if equipped)
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A (1) or B (0)
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00
Horn Alert:	RCL + # + 6
New Unlock Code:	NAM
System Select:	RCL + # + # + #, etc. One of the following will appear: AB BA Scan A Scan B

Press CLR to enter selection and exit.

MEI CT3000

NAM Type: EE PROM
Manufacturer: MEI
Programmer: Handset
ESN Prefix: Dec 167 Hex A7
ESN/Serial Number Match: Yes
Stamped Model Number: CT 3000
Number of Channels: 832

Programming Sequence: Power ON
Enter program sequence: 12358+*+0+#980+#
(must be input within 10 seconds)
Press 1 to enter program mode
Select NAM 1 or 2
Enter information for each step then press * to increment
Press END to write NAM information or select NAM 2 and repeat progress to program 2nd NAM

Step		# of Digits	
1	System ID	5	XXXXX+*
2	Local Use	1	1 + *
3	MIN Opt	1	1 + *
4	Mobile Number	10	XXX-XXX-XXXX+*
5	Station Class	2	08+*
6	Initial Page Channel	3	333 or 334+*
7	Access Overload	2	XX+*
8	Preferred System	1	(0) B or 1 (A)
9	Group ID	2	XX+*
10	Lock Code	3	XXX+*
11	End to End Signaling	1	1 + *
12	Repertory Opt	1	1 + *
13	Horn Alert	1	1 + *
14	Handsfree	1	1 + *
15	Sec Code(Don't Use Unlock)	3	XXX+*

Press END to write NAM information

Horn Alert: FCN + 9
New Unlock Code: NAM
System Select: FCN + O + RCL + RCL + RCL etc
(Until one of the following prompts appears)
Standard (AB or BA)
inverse Alternate (BA or AB)
A Only
B Only
Home

Press STO to enter selection + CLR to exit.

MEI HT5000 PORTABLE

NAM Type: EE PROM
Manufacturer: MEI
Programmer: Keypad
ESN Prefix: Dec 167 Hex A7
ESN/Serial Number Match: Yes
Stamped Model Number: HT 5000
Number of Channels: 832
Programming Sequence: Fully charged battery on phone
Power ON
Connect program adaptor to bottom of phone or jumper pin #1 and pin #5 while pressing PWR button
Enter individual parameter then press RCL to store data and increment
SND or MUT may be pressed to scroll program parameters
Press END to write NAM Information

Step		# of Digits	
01	System Select Feature	1	1+RCL
02	Low Battery Alarm	1	1+RCL
03	Memory Locations 0=10		1+RCL
	1=100	1	1+RCL
04	Enable Roaming	1	1+RCL
05	End to End Signaling	1	1+RCL
06	Horn Alert	1	1+RCL
07	Repertory Opt	1	1+RCL
08	Music on Mute	1	1+RCL
09	Enable Timer Reset	1	1+RCL
10	Status Meter	1	1+RCL
11	Not Used	1	0+RCL
12	Resettable Timer Clr restr	1	0+RCL
13	Restrict Own Number Display	1	0+RCL
14-16	Not Used	1	0+RCL
17	Lock Select 0=Total Lock 1=Outgoing Lock 2=Partial Lock	1	1+RCL
18	Unlock Code	1-10	XXX+RCL
19	Backlight Timer(In Sec)	0-255	10+RCL
20	Mobile Number	10	XXX-XXX-XXXX+RCL
21	System ID	5	XXXXX+RCL
22	Initial Paging Channel	3	(333 or 334)+RCL
23	Station Class	2	10+RCL
24	Preferred System	1	[A(1) or B(0)]+RCL
25	MIN Opt	1	1+RCL
26	Access Overload	2	XX+RCL
27	Group ID	2	XX+RCL
28	Local Use	1	1+RCL

The program sequence will now repeats steps 20-28 for a second telephone number. If you wish to program only one number, press END (after entering Step #28) to exit the program mode. Once End is pressed, wait 5 seconds for the phone to complete the program process.
After the programming is complete, power phone OFF and remove the program adaptor.

Multiple NAM Select: RCL + # + 6 (Repeatedly until new number and correct system select appear)

New Unlock Code: NAM
System Select: RCL + # + 6 + 6 + 6 + 6 etc.
(One of the following prompts will display)

Standard	(AB or BA)
Inverted	Alternate (BA or AB)
A Only	
B Only	
Home	

Press CLR to exit

MESA

See DIAMONDTEL

MGA TELEPHONES

MGA 100 - See DIAMONDTEL MESA 95

MGA 200 - See DIAMONDTEL MESA 90X

MITSUBISHI 500, 555, 560 AND 600

NAM Type: EE PROM
Manufacturer: MITSUBISHI
Programmer: Handset
ESN Prefix: Dec 134 Hex 86
ESN/Serial Number Match: No
Handset Programmable: Yes
Number of Channels: 666
Programming Sequence: Power ON
555 & 600: Press and hold STO while inputting 5474432
700: Press and hold CLR while inputting 3111917
Enter data then press SND to increment.
Press END to write NAM information

Step		# of Digits	
0	Mobile Number	10	XXX-XXX-XXXX + SND
1	Security Code (used to set unlock code)	3	XXX + SND
2	System ID	5	XXXXX + SND
3	Local Use	1	1 + SND
4	MIN Opt	1	1 + SND
5	Initial Paging Channel	3	333 or 334 + SND
6	Access Oerload	2	XX + SND
7	Preferred System	1	(0)B or 1(A) +SND
8	Group ID	2	XX + SND
9	End to End Signaling	1	1 + SND
10	Handsfree	1	0 (disable) or 1 (enable) + SND
11	Roam Inhibit	1	0 (disable) or 1 (enable) + SND
12	A/B Select	1	0 (disable) or 1 (enable) + SND
13	Dual Handset	2	00 single set+ SND 01 dual hdset+ SND
14	Long Distance Inhibit	2	00 standard + SND 08 inhibit + SND

This phone also has a NAM socket. Be sure to remove standard NAM, if applicable, before attempting to program phone from the handset.
Horn Alert: FCN + 5
5 can be repeatedly pressed to extend horn alert duration. If "Horn~ stays illuminated, then horn alert is on. If "Horn" blinks, then call in absence indicator is activated.
New Unlock Code: FCN + 6 + 3 Digit Security Code (NAM) + New 3 Digit Unlock Code
System Select: FCN + 0 + 0 + 0 etc. (until one of the following prompts appears)

Pref A or Pref B	Standard (AB or BA)
Pref B or Pref A	Alternate (BA or AB)
H Only	Home
Only A or Only B	Pref Only
Only B or Only A	Non-Pref Only

Press CLR to exit

MITSUBISHI 700 PORTABLE

NAM Type: EE PROM
Manufacturer: MITSUBISHI
Programmer: Handset
ESN Prefix: Dec 134 Hex 86
ESN/Serial Number Match: No
Stamped Model Number: MT392FOR6A
Number of Channels: 666

Programming Sequence:Power ON
Enter Sequence 3111917 while holding CLR
(within 10 seconds of power ON)
SEND Button Enters Data and Increments
END Button Writes Data in NAM

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX+SEND
2	Security Code	4	XXXX+SEND
3	System ID	5	XXXXX+SEND
4	Local Use	1	1 + SEND
5	MIN Opt	1	1 + SEND
6	Initial Page Channel	3	(333 or 334)+Send
7	Access Overload	2	XX + SEND
8	Preferred System	1	0(B) or 1(A)+SEND
9	Group ID	2	XX + SEND
10	End to End Signaling	1	1 + SEND
11	Roam Inhibit	1	(0 or 1) + SEND
12	Enable A/B Option	1	(0 or 1) + SEND
13	Auto Lock	1	(0 or 1) + SEND
14	Enable Booster Option	1	(0 or 1) + SEND

Press END to write NAM information

New Unlock Code:FCN + STO + (4 Digit Security Code) + New 3 Digit Unlock Code + CLR
System Select: FCN + 1 + X + CLR (To Exit)
0: Standard (AB or BA)
1: Alternate (BA or AB)
2: Home Only
3: Preferred Only (A Only or B Only)
4: Non-Pref Only (B Only or A Only)

MITSUBISHI 800
TRANSPORTABLE AND MOBILE

NAM Type: EE PROM
Manufacturer: MITSUBISHI
Programmer: Handset
ESN Prefix: Dec 134 Hex 86
ESN/Serial Number Match: No
Handsetf Programmable: Yes
Number of Channels: 832

Programming Sequence:Power ON
Depress and Hold STO while inputting 5474432
(must be input within 10 seconds)
Enter information for each step then press SND to increment
Press END to write NAM information

Step		# of Digits	
1	Dual Phone Number	1	0 (1 number) or 1 (2 number)
2	Mobile Number 1	10	XXX-XXX-XXXX
3	System ID 1	5	XXXXX
4	Local Use 1	1	1
5	MIN Opt 1	1	1
6	Initial Page Channel 1	4	0333 or 0334
7	Access Overload 1	2	XX
8	Preferred System 1	1	(0) B or 1 (A)
9	Group ID 1	2	XX
10	Mobile Number 2	10	XXX-XXX-XXXX
11	System ID 2	5	XXXXX
12	Local Use 2	1	1
13	MIN Opt 2	1	1
14	Initial Page Channel 2	4	0333 or 0334
15	Access Overload 2	2	XX
16	Preferred System 2	1	0 (B) or 1 (A)
17	Group ID 2	2	XX
18	Security Code	4	XXXX
19	End-to-End Signaling	1	1
20	Discontinuous Transmission	1	0(dis) or 1(en)
21	Handsfree	1	0(dis) or 1(en)
22	Roam Inhibit	1	0
23	Continuous DTMF	1	0(dis) or 1(en)
24	System Select	1	1
25	Dual Handset	1	0(dis) or 1(en)
26	Long Distance Inhibit	1	0(dis) or 1(en)

NEVER POWER "OFF" OR DISCONNECT POWER WHILE PHONE IS IN PROGRAMMING MODE.

Display ESN: Enter Test Mode Power ON
Press and Hold STO while inputting 5278764
Enter 189 + SND (To read ESN)
Power off to exit

Horn Alert: FCN + 5 Pressing 5 repeatedly will increase horn alert duration. If "Horn" stays illuminated, phone is in horn alert mode. If "Horn" blinks, the call in absence indicator is activated.

New Unlock Code: FCN + 6 + 4 Digit Security Code (NAM) + New 3 Digit Unlock Code + CLR

System Select: FCN + 0 + 0 + 0 etc. (Until one of the following prompts apppears)

Pref A or Pref B, Standard (AB or BA)
Pref B or Pref A, Alternate (BA or AB)
H only Home
Only A or Only B Pref Only
Only B or Only A Non-Pref Only
Press CLR to exit.

MITSUBISHI 900 AND 3000
PORTABLES

NAM Type: EE PROM
Manufacturer: MITSUBISHI
Programmer: Handset
ESN Prefix: Dec 134 Hex 86
ESN/Serial Number Match: No
Handset Programmable: Yes
Number of Channels: 832

Programming Sequence:Power ON
Depress and Hold END while inputting 6972814
(must be input within 10 seconds)
Enter information for each step then press SEND to increment
Press END to Write NAM information

Step		# of Digits	
1	Dual Number	1[0 (1 number) or 1 (2 number)]	+ SND
2	Mobile Number	10	XXX-XXX-XXXX + SND
3	System ID 1	5	XXXXX + SND
4	Local Use 1	1	1 + SND
5	MIN Opt 1	1	1 + SND
6	Initial Page Channel 1	4	[333 or 334] + SND
7	Access Overload 1	2	XX + SND
8 (900 Only)			
	Preferred System 1	1	[(0)B or 1(A)]+SND
9	Group ID 1	2	XX + SND
10	Roam Inhibit 1	1	0 + SND
11	VOX	1	[0 (disable) or 1 (enable)] + SND
12	Auto Retry	1	[0 (disable) or 1 (enable)] + SND
(If you selected 0 for Step 1, then program continues with Step 24)			
13	Mobile Number 2	10	XXX-XXX-XXXX = SND
14	System ID 2	5	XXXXX = SND
15	Local Use 2	1	1 + SND
16	MIN Opt 2	1	1 + SND
17	Initial Page Channel 2	4	[0333or0334] + SND
18	Access Overload 2	2	XX + SND
19 (900 Only)			
Preferred System 2		1	[0(B) or 1(A)]+SND
20	Group ID 2	2	XX + SND
21	Roam Inhibit 2	1	[0 or 1] + SND
22	VOX 2	1	[0(dis)or1(en)]+SND
23	Auto Retry 2	1	[0(dis)or1(en)]+SND
24	Security Code	4	XXXX + SND
25 (900 Only)			
	End to End Signaling	1	1 + SND
26	Continuous DTMF	1	[0(dis)or1(en)]+SND
27	Auto Lock	1	[0(dis)or1(en)+SND
28	Booster	1	0 + SND

29 (900 Only)
Audible Timer 1 [0(dis)or1(en)]+SND

USE A CHARGED BATTERY FOR PROGRAMMING.
DO NOT POWER DOWN OR DISCONNECT POWER WHILE IN THE PROGRAMMING MODE.

Display ESN: Power ON
Hold END key while inputting 0944635 (within 10 seconds)
18 + SEND (to display ESN)
Power OFF (to Exit)

New Unlock Code: 900: FCN + 7 + 4 Digit Security Code (NAM) + New 3 Digit Unlock Code + CLR

3000:FCN + 7 + 4 Digit Security Code (NAM) + New 3 Digit Unlock Code + STO

System Select: FCN + 1 + X
X = 0 Standard (AB or BA)
X = 1 Alternate (BA or AB)
X = 2 Home
X = 3 Pref Only (A Only or B Only)
X = 4 Non-Pref Only(B Only / A Only)

Press CLR to exit

MITSUBISHI 1500
TRANSPORTABLE AND MOBILE

NAM Type: EE PROM
Manufacturer: MITSUBISHI
Programmer: Handset
ESN Prefix: Dec 134 Hex 86
ESN/Serial Number Match: No
Stamped Model Number: 1500+Serial Number
Number of Channels: 832

Programming Sequence: Power ON
Depress and Hold CLR while inputting 5474432
(must be input within 10 seconds)
Enter information for each step then press
SND to increment
Press END to write NAM information

Step		# of Digits	
1	Dual Phone Number	1	0 (1 number) or 1 (2 number) + SND
2	Mobile Number 1	10	XXX-XXX-XXXX+SND
3	System ID 1	5	XXXXX+SND
4	Local Use 1	1	1+SND
5	MIN Opt 1	1	1+SND
6	Initial Page Channel 1	4	(0333 or 0334) + SND
7	Access Overload 1	2	XX+SND
8	Group ID 1	2	XX+SND
	(If you selected 0 for Step 1, program continues to Step 16)		
9	Mobile Number 2	10	XXX-XXX-XXXX+SND
10	System ID 2	5	XXXXX+SND
11	Local Use 2	1	1+SND
12	MIN Opt 2	1	1+SND
13	Initial Page Chanel 2	4	(0333 or 0334)+SND
14	Access Overload 2	2	XX+SND
15	Group ID 2	2	XX+SND
16	Security Code	4	XXXX+SND
17	Discontinuous Transmission	1	[0(dis)or1(en)+SND
18	Roam Inhibit	1	0+SND
19	Continuous DTMF	1	0(disable) or 1(enable)+SND
20	System Select	1	1+SND
21	Disable Own Tel # Display	1	0
22	SID Lockout (Invalid SID)	5	XXXXX
25	Dual Handset	1	0(disable) or

26	RJ 11 Option	1	1(enable)+SND 0(disable) or 1(enable)+SND

Press END key to enter program info and exit program mode

NEVER POWER "OFF" OR DISCONNECT POWER WHILE PHONE IS IN PROGRAMMING MODE.

Display ESN: Enter Test Mode Power ON
Press and Hold CLR while inputting 5287864
Enter 18 + SND(To read ESN)
Power off to exit

Horn Alert: FCN + 3 + 8
New Unlock Code:FCN+7+4 Digit Security Code + New 3 Digit Unlock Code + STO
System Select: FCN + 1 + X
X = 0 Prefer A (AB)
X = 1 Prefer B (BA)
X = 2 Home
X = 3 A Only
X = 4 B Only
Press CLR to exit

MITSUBISHI 301, 401, and 450

NAM Type:	Tri-State
Manufacturer:	Mitsubishi
Programmer:	Curtis or Bytek
ESN Prefix DEC:	134
HEX:	86
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
MIN 1:	XXX
MIN 1:	XXXX
Lock:	XXX
MIN 2:	XXX
System ID Format:	XXXX
Horn Alert Option:	1
Handsfree Option:	1 (if equipped)
End-to-End Signalling:	1
Repertory Option:	1
Group ID Format:	XX
Access Overload Class:	XX
Station Class:	0000
Local Use Option:	1
Initial Paging Channel:	333 or 334
Preferred System:	1 (A) or 0 (B)

Manufacturer Options (options specified for Curtis programmer):

33 Enable System Select:	1
34 Roam Inhibit:	0
Horn Alert:	HORN
New Unlock Code:	NAM

System Select: Provided manufacturer option (33) above is enabled, the following sequence will allow system selection. This process must be repeated each time the phone is powered on.

STORE + # + # + #, etc.
One of the following will appear:

AAABBB or BBBAAA	Standard (AB or BA)
BBBAAA or AAABBB	Alternate (BA or AB)
CSOAAA or CSOBBB	Home
AAAAAA or BBBBBB	Pref Only (A only or B only)
BBBBBB or AAAAAA	Non-pref Only(B only or A only)

Press CLEAR to exit.
(Must be reset each time phone is turned on.)

MITSUBISHI 460 CRYSTAL ONE

NAM Type:	Tri-State
Manufacturer:	Toshiba
Programmer:	Motorola, Curtis or Bytek
ESN Prefix DEC:	138
HEX:	8A
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Enabled or Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Manufacturer Options:

Hex Address	B7 B0
13	0 0 0 0 0 0 1 1
14	0 0 0 0 0 0 0 0
15	0 0 0 0 0 0 0 0
16	0 0 0 0 0 0 0 0
17	0 0 0 0 0 0 0 0
18	0 0 0 0 0 0 0 0
19	0 0 0 0 0 0 0 0
1A	0 0 0 0 0 0 0 0
1B	X X X X X X X X
1C	X X X X 0 0 0 0

Description:

Address 13 - B0 A/B Switch
B1 Call Timer

Address 1B - B4-B7 Call Timer Clear Code
1st digit (Binary)
B0-B3 Call Timer Clear Code
2nd digit (Binary)

Address 1C - B4-B7 Call Timer Clear Code
3rd digit (Binary)

Horn Alert: FCN + 6 + Turn Ignition Off
New Unlock Code: NAM
System Select: FCN + 0 Toggles between (AB and BA)
FCN + 7 Pref Only
FCN + 8 Home
FCN + 9 Non-pref Only

MOBIRA 300 SERIES, ME 57 AND ME 57A TRANSPORTABLE

NAM Type: EE PROM
Manufacturer: Mobira
Programmer: Handset, Service Handset or Curtis (with MOBIRA option)
ESN Prefix: Dec 156 Hex 96
ESN/Serial Number Match: Yes
Stamped Model Number: ME57A
Number of Channels: 666
Programming Sequence:Enter Local Mode with the following sequence:* + 21057 + # + XXXXX + * XXXXX = 12345 (from factory) XXXXX = Current Security Code
(Local Mode can also be entered with a service handset using the sequence: 01 + #)
White noise will come from handset
Enter Programming Mode with the following sequence: 48#
Press each step number, desired parameter then * to enter data Example: System ID (0+XXXXX+*)
Once data has been entered, press * to exit Program Mode and return to Local Mode
To exit Local Mode, press 02# or power OFF
ESN can be read in Local Mode by pressing 44#
ESN will display in decimal. Press * to convert ESN to hexidecimal
See instructions on following page to review current NAM contents

Step		# of Digits	
0	System ID	5	XXXXX
1	MIN Opt	1	1
2	Local Use	1	1
3	Mobile Number	10	XXX-XXX-XXXX
4	Station Class	2	00
5	Initial Page Channel	3	333 or 334
6	Access Overload	2	XX
7	Preferred System	1	0 (B) or 1 (A)
8	Group ID	2	XX
9	Security Code	5	XXXXX

Horn Alert: SEL + 2 (Turn Ignition Off)
NAM Reading Sequence:Enter Local Mode as listed above
Press 49# to enter NAM Reading Mode
To read programmed values, enter step number Then press *
To exit NAM Reading Mode, press * and phone will return to Local Mode
To exit Local Mode press 02# or power OFF
New Unlock Code: SEL + LCK + (5 Digit Security Code)(Current 4 digit Unlock Code Displays - Preset 1234) + New 4 Digit Unlock Code + SEL
System Select: SEL + 1 + 1 + 1 etc (To Scroll Choices) + SEL (To Exit)
A Only
B Only
S (Standard) AB or BA

MOBIRA 400 SERIES (TRANS)
AND 500 SERIES (PORT)

NAM Type: EE PROM
Manufacturer: MOBIRA
400 Series Programmer: Handset, CURTIS (with MOBIRA adaptor) or
Service Handset
500 Series Programmer: Keypad or Service Adaptor
ESN Prefix: Dec 156 Hex 9C
ESN/Serial Number Match: No
Handset Programmable: Yes, IF 5 digit sec code is known
Number of Channels: 666 or 832

Programming Sequence:Verify if 400 Series phone has dual NAM by the commands:MENU, FCN, NEXT, OK, FCN, NEXT, OK 5, OK
Phone will Display: TPA-4 for Single NAM or TPA-4D for Dual NAM

Press FCN, CLR
Programming
Power ON
Press MENU, FCN, NEXT, OK, FCN, NEXT, OK
An asterisk (*) should appear in display (if not, Press FCN, CLR and repeat above listed keystrokes).
Enter Access Code *21057#.XXXXX.OK
XXXXX = 12345 (from factory)
XXXXX = current security code
Verify display "HOME SYS" for single NAM phones or "SELECT USED NAM" for dual NAM phone.
Use NEXT key to increment or FCN.NEXT to decrement thru parameters.
Press OK key to view current value of parameter
Store parameter value by pressing OK
Wait for vaue to disappear and parameter name to reappear

To program 2nd number in Dual NAM phone, return to "SELECT USED NAM:
Enable 2nd NAM by pressing OK
Program thru Group ID parameter for 2nd NAM

To write NAM information, press FCN. CLR
Power Off, Power On

Step		# of Digits	
1	NAM Selection	None	Primary/Optional
1A	2nd NAM	None	Disable/Enable
2	System ID	5	XXXXX
3	MIN Opt	1	0 or 1
4	Local Use	1	0 or 1
5	Mobile Number	10	XXX-XXX-XXXX
6	Station Class	2	XX
7	Initial Paging Chanel	4	XXXX
8	Access Overload	2	XX
9	Preferred System	--	A or B
10	Group ID	2	XX
11	Security Code	5	XXXXX
12	Mfg Control Date	Preset at Factory	
13	Install Date	6	XX/XX/XX

Horn Alert:N/A
New Unlock Code:Menu+FCN+NEXT + OK + NEXT + OK + NEXT + OK
(Continue pressing NEXT + OK until UNLOCK CODE appears) Upon pressing OK, SECURITY ID will appear. Enter 5 digit security code (NAM) and current unlock code will appear. Enter new 4digit unlock code.
System Select:FCN + 1 then NEXT to change or OK to accept.
The selections will appear as follows:
BA or AB
Preferred only
Non-Preferred Only

MURATA CT50 AND MCT 200 PORTABLE

NAM Type: EE PROM
Manufacturer: MURATA
Programmer: Keypad
ESN Prefix: Dec 144 Hex 90
ESN/Serial Number Match: No
Stamped Model Number: CT50 or MCT 200
Number of Chanels: 832

Programming Sequence: Power OFF
Power ON while holding
Enter Program Code 314159
Software version will display
Press STO to advance to next step (System ID)
Repeatedly press 0 ("Clr", "Set" or "Pass" will display)
Repeatedly press 0 until "Set" appears
Press STO+Enter System ID(digit+#+digit+#+digit+#etc.)+#(to increment to next step)

Step		# of Digits	
1	System ID	5	XXXXX+#
2	Mobile Number	10	XXX-XXX-XXXX+#
3	Security Code	6	XXXXX+#

New Unlock Code:
CT50: FCN + 53 + 6 Digit Security Code + 1 +STO + New 3 Digit Unlock Code
MCT200:FCN + 52 + 6 Digit Security Code + 1 + STO + New 3 Digit Unlock Code

System Select:FCN + 12 + 0 + 0 + 0 + 0 etc. (One of the following will display)
Standard AB or BA
Home
A Only
B Only

Press STO to enter selection

THE SACRED THREE STEPS FOR PROGRAMMING MOTOROLA PHONES

STEP 1: Determine programming sequence from the following list.This sequence will allow access to programming mode.

Handset or Portable type	Model Number	Programming Sequence	Seller Code
SCN 2004	4500L	3	A
SCN 2005	4500XL	3	A
SCN 2007	3000	6	B
SCN 2022		6	
SCN 2023	6800XL	6	A
SCN 2033		5	
SCN 2034		6	
SCN 2042	Credit Card	N/A	
SCN 2043	MC200,MODAR	4	C
SCN 2056	1900,2200,2900		
SCN 2080	BLAUPUNKT	6	
SCN 2081		5	
SCN 2083	6800XL	6	A
SCN 2084		2	
SCN 2085		6	
SCN 2090	MC500	6	C
SCN 2094	TOYOTA	6	
SCN 2104	AUDI	6	
SCN 2115		6	
SCN 2119	4500XL	3	
SCN 2120	5000	6	B
SCN 2124	2600,AC320	6	B,E
SCN 2126		4	
SCN 2127		4	
SCN 2128		4	
SCN 2129	DYNA-GRAY	4	
SCN 2133	6000X	1	
SCN 2134		6	
SCN 2144	INFINITI	5	
SCN 2165		4	
SCN 2166		4	
SCN 2168		4	
SCN 2174		3	
SCN 2175		4	
SCN 2180		4	
SCN 2194	MC300	4	C
SCN 2195		6	
SCN 2200	PULSAR	4	
SCN 2201	PULSAR	4	
SCN 2202	PULSAR	4	

Handset or Portable type	Model Number	Programming Sequence	Seller Code
SCN 2204	MC500	4	
SCN 2208	SEARS	4	
SCN 2209	(MONTGOMERY	4	
SCN 2210	WARDS)	3	
SCN 2222	ACURA	6	
SCN 2223	ACURA FS	6	
SCN 2238	GM	6	
SCN 2251	DYNA-GRAY	6	
SCN 2252		4	
SCN 2259	TRACER PULSAR	4	
SCN 2260	PCC	4	
SCN 2278	INFINITI	5	
SCN 2282	PIONEER	6	
SCN 2283	PIONEER	6	
SCN 2295		6	
SCN 2301	LEXUS	6	
SCN 2329		6	
SCN 2330	AC 250	6	E
SLN 2020	6000X	1	A
SLN 2021		1	
SLN 2025	2000X	4	B
T180B	NAUTILUS-bk	4	
T180W	NAUTILUS-wt	4	
TLN 2659	6000X	1	B
TLN 2674	4000C/5000	2	B/C
TLN 2724		1	
TLN 2726		2	
TLN 2733	6000	2	B
TLN 2734		2	
TLN 2777	2000X	4	B
TLN 2867		1	
TLN 2879		2	
UD71419	ROLLS ROYCE	6	
1632570	GM	2	
1644364	GM	2	
1648752	GM	2	
1648764	GM	2	
4410351C4	A AUDI	6	
869872106	BLAUPUNKT	6	

PORTABLE PHONES

Handset or Portable type	Model Number	Programming Sequence	Seller Code
750	2	C	
950/950X	2	B	
8000BC	2	B	
8000BCX	1	B	
8000H	2		
8500	1	A	
9000/ULTRA CLASSIC	6	B/C	
9800XL	6	A	
PERSONAL (w/menu button)	6		
PERSONAL (w/o menu)	1		

SELLER CODES
A:MOTOROLA DIRECT
B:US WEST CELLULAR
C:McCAW(CELL ONE)
D:LA CELLULAR
E:AMERITECH

STEP 2

Once phone model and sequence number are identified, determine the program access sequence from this list.

PROGRAM ACCESS SEQUENCES

Sequence Number	
1	FCN + Security Code + Security Code + RCL
2	STO + # + Security Code + Security Code + RCL
3	CTL + 0 + Security Code + Security Code + RCL
4	CTL + 0 + Security Code + Security Code + *
5	FCN + 0 + Security Code + Security Code + MEM
6	FCN + 0 + Security Code + Security Code + RCL

** CTL - Control button is either a button on keypad or the VOLUME button on the left side of handset

** Factory programmed security code is 000000

STEP 3 PROGRAMMING SEQUENCE

Power ON
Enter program access sequence (within 10 seconds)
Prompt 01 is displayed
Repeatedly press * to increment (contents of location are displayed)
Press SEND to write NAM information
(press # prior to SEND for 2nd number)
(to enable 2nd number, bit 5 step 10 must be enabled and phone must be software equipped for 2nd number)

STEP				# of DIGITS
1	System ID			5XXXXX
2	Area Code			3XXX
3	Mobile #			7XXX-XXXX
4	Station Class		2	XX
5	Access Overload	2	XX	
6	Group ID			2XX
7	Security Code		6	XXXXXX
8	Unlock Code		3	XXX
9	Initial Paging CH	4	0333 or 0334	
10	Program OPT(1)		6	XXXXXX
11	Program Opt(2)		3	XXX

Program Options

step 10		step 11	
Disable int speaker		Long Tone DTMF	
Local Use		Handset	Speaker
Enable(carry phone only)			
MIN Mark		Eight Hour Timeout	
in Convertible			
Auto Recall			
Second phone #			
(must have software)			
Diversity			

TEST MODE

Motorola phones can be keypad programmed three times only and you also must know the security code. The manual test mode will get you around both obstacles. A mobile test adapter is needed to induce test mode. Manual test mode will work on "F" series or newer only (F,G,H,I,J, etc. Model# F08G6789 is a "G" series)

1.Turn phone Power OFF

2.
Mobiles/Transportable Models- install a jumper between pins 17 & 21 on the data cable connector (RS232).
Portable Models - jumper pin #6 to Ground (Ground is the large, center contact on back of phone with battery removed)

3. Turn phone Power ON

4. Press # button

5. Press 55# (to view NAM contents)

6. Repeatedly press * to step through NAM contents

7. Read and note 6 digit security code

8. Press * repeatedly until tick mark(') shows in display

9. Power OFF to exit manual test mode

Resetting three times counter:
1. use jumper to place phone in test mode and power ON
2. press #
3. press 32 # (wait until tick mark(') shows in display
4. Power OFF to exit test mode

Reading ESN:
1. place phone in test mode and power ON
2. press #
3. press 38#
4. Repeatedly press * to read entire ESN (00,01,02,03) 2 digits at a time.
5. press * until tick mark (') shows in display

6. power phone OFF to exit manual test mode

SYSTEM SELECT Motorola Phones

MODEL #	KEYPAD FUNCTION
1100	CONTROL + * + * +
* + etc. (until following	prompt appears)
1500	STD AB or STD
BA	
1800	SCAN BA or SCAN
AB	
2000X	SCAN A
MC100	SCAN B
MC200	
TT2	Press STO to enter
selection	

MODEL #	KEYPAD FUNCTION
1900	RCL + * + * + * +
etc. (until following	prompt appears)
2200	STD AB or STD
BA	
4500XL	SCAN BA or SCAN AB
TT22	HOME
MC300	SCAN A
Carry Phone	SCAN B
	Press # to enter
selection	

MODEL #	KEYPAD FUNCTION
750	RCL + * + * + * + etc.
	(until following
750 "L" Series	prompt appears)
950	STD AB or STD
BA	
950X	SCAN BA or SCAN AB
2600	HOME
3000	SCAN A
5000(ver2)	SCAN B
8000BCX	PREF'D SIDs(ULTRA
CLASSIC/5000ver2 only)	
MC500	
TT3	Press STO to entr selection
TT5	
ULTRA CLASSIC	

MODEL #	KEYPAD FUNCTION
PERSONAL TELEPHONE	RCL + * + * + * + etc. (until following prompt appears) STD AB or STD BA SCAN BA or SCAN AB HOME SCAN A SCAN B ENTER SYS ID
4000C 5000 6000 6000X 6000XL 8000BC 8500	Press STO to enter selection
2000 2000R 4000X 4500	NOT APPLICABLE

MODEL #	KEYPAD FUNCTION
6800 XL	MENU + 2 + 3 + STO + (* or # to scroll forward or backward through the following choices) STD AB or STD BA SCAN BA or SCAN AB HOME SCAN A SCAN B PREFERRED SIDs (up to 5 SIDs, press STO to enter, CLR to erase) Press STO to enter selection press END to exit w/no changes

MODEL #	KEYPAD FUNCTION
PERSONAL TELEPHONE	FCN + MENU + 2 + 3 + STO or RCL + * (< or > to scroll) STD AB or STD BA(standard) SCAN BA or SCAN AB HOME SCAN A SCAN B ENTER SID (5 SIDs max) Press STO to enter selection

HORN ALERT - MOTOROLA PHONES

MC100 1100 2000 2000R 4500	NOT AVAILABLE
MC200 MC300 1500 1800 2000 4500XL	CONTROL + 4 (Control button located on left side of handset)
MC500 1900 2200 2600 3000 6800XL 5000(ver2) TT5	FCN + 4
4000C 4000X 5000 6000X 6000XL	AUX
6000	MUTE

NEW UNLOCK CODE MOTOROLA PHONES

MODEL	KEYPAD FUNCTION
MC100/200/300 1100/1500/1800 1900/2000/2000R 2000X/2200/2600 4000X/4500 TT2/TT22 Carry Phone PERSONAL TELEPHONE(w/o MENU)	NOT APPLICABLE
3000	FCN + 0 + Six digit security code(NAM) + new Three digit unlock code + RCL
750 "L" series 950X 4000C 5000/6000	STO + # + Six digit security code(NAM) + new Three digit Unlock code + STO
5000 (ver2)	FCN + 0 + 6 digit security code + new 3 digit Unlock code + #
4500XL	CONTROL + 0 + 6 Digit Security Code + New 3 Digit Unlock Code + # (Control button on left side of handset)
6000X	FCN + Six Digit Security Code(NAM) + New Three 8500 Digit Unlock Code + STO
MC500 TT5 9000/ULTRA CLASSIC	FCN + 0 + 6 Digit Security Code(NAM) + New 3 Digit Unlock Code + STO
6800XL	MENU + 5 + 4 + STO + 6 digit security code(NAM) PERSONAL TELEPHONE+ New 3 digit unlock code (w/MENU key)

MODELS

1100		2000	4000CMC200
1500		2000X	5000MC400
1500A	2000XSE	6000	MC500
1800		2000XT	6000XG O L D

SERIES

2000	3000	MC100

NAM Type: EEPROM
Manufacturer: Motorola
Programmer:Motorola 1801-CELPROG or Handset
ESN Prefix: DEC 130 HEX 82
ESN/Serial Number Match: NO
Handset Programmable:Yes (small style transciever and known s e c u r i t y code/manual test adapter)
Number of Channels: All smaller Transcievers 666 or 832
Motorola Large style Transceivers 666

Phone Number: XXX-XXX-XXXX
Security Code: XXXXXX
Lock Code: XXX
System ID: XXXXX
Preferred system: A or B
Access Overload: XX
Group ID: XX
MIN Opt: Enabled
Local Use: Enabled
Initial Paging Channel: 333 or 334
Diversity: Disabled (Enabled if Equipped)
Abbreviated Memory: Enabled
End -End Signaling: Enabled
Horn Alert: Enabled

standard parameters
Air Time Counter: Enabled
IMTS Combination: Disabled (Enable if Equipped)
Service Levels: enabled
Service Level: 4
Select System Program: Enabled
Auto Reecall: Enabled
Lock Mode: Enabled
Handsfree Auto Mute: Disabled
Scrambler Opt: Disabled
Test Mobile: Disabled
Station Class: XX(00-666 ch or 08-832ch)
Single System Scan: Disabled
Ext(n-1) Field: Disabled
First Channel System A: 333
First Channel System B: 334
Number of Dedicated Channels: 21

Option Bits

Hex Addr	B7							B0
1A	0	0	0	0	0	0	0	0
1B	0	0	0	0	0	0	0	0
1C	0	0	0	0	1	0	0	0

Hex Addr 1B

B0 Portable Scan
0: Portable, 1: Mobile

B3 Eight HR Timeout
0: Enable, 1: Disable

B5 Long Tone DTMF
0: Disable, 1:Enable

Hex Addr 1C

B3 - Disable Handset Speaker - Handsfree Applications

MOTOROLA TT2, TT3, TT5, TT22

NAM Type: EEPROM
Manufacturer: Motorola
Programmer:Motorola 1801-CELPROG or Handset
ESN Prefix: DEC 130 HEX 82
ESN/Serial Number Match: NO
Handset Programmable:Yes (small style transciever and known security code/manual test adapter)
Number of Channels: 666 or 832

Phone Number: XXX-XXX-XXXX
Security Code: XXXXXX
Lock Code: XXX
System ID: XXXXX
Preferred system: A or B
Access Overload: XX
Group ID: XX
MIN Opt: Enabled
Local Use: Enabled
Initial Paging Channel: 333 or 334
Diversity: Disabled (Enabled if Equipped)
Abbreviated Memory: Enabled
End -End DTMF: Enabled
Horn Alert: Enabled

standard parameters
Air Time Counter: Enabled
IMTS Combination: Disabled (Enable if Equipped)
Service Levels: enabled
Service Level: 4
Select System Program: Enabled
Auto Reecall: Enabled
Lock Mode: Enabled
Handsfree Auto Mute: Disabled

Scrambler Opt: Disabled
Test Mobile: Disabled
Station Class: XX(00-666 ch or 08-832ch)
Single System Scan: Disabled
Ext(n-1) Field: Disabled
First Channel System A: 333
First Channel System B: 334
Number of Dedicated Channels: 21

Option Bits

Hex Addr	B7							B0
1A	0	0	0	0	0	0	0	0
1B	0	0	1	0	0	0	0	1
1C	0	0	0	0	0	0	0	0

Hex Addr 1B

B0 Portable Scan
0: Portable, 1: Mobile

B3 Eight HR Timeout
0: Enable, 1: Disable

B4 Handset Speaker
0:Disabled, 1:Enabled

B5 Long Tone DTMF
0: Disable, 1:Enable

Hex Addr 1C

B3 - Call Processing Speaker
1:Disable, 0:Enable

MOTOROLA 1900 KS SERIES

See Motorola programming instructions.

MOTOROLA 4000X

NAM Type:	Tri-State
Manufacturer:	Motorola
Programmer:	Motorola 1801 or Curtis
ESN Prefix DEC:	130
HEX:	82
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled (Enable if equipped)
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	XX
Diversity:	Disabled (Enabled if equipped)
Station Class:	00
Horn Alert:	AUX
New Unlock Code:	NAM
System Select:	N/A

MOTOROLA 8000BC PORTABLE
(MOTOROLA programmer instructions)

NAM Type:	E^2 PROM
Manufacturer:	Motorola
Programmer:	Motorola 1801 - CelProg or Handset (See MOTOROLA handset programming inst.)
ESN Prefix DEC:	130
HEX:	82
ESN, S/N Match Required:	No
Programmable Handset:	Yes, provided security code is known or adaptor is available to place phone in manual test mode.
Available Channels:	832
Phone Number Format:	XXX-XXX-XXXX
Security Code:	XXXXXX
Lock Code Format:	XXX
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
MIN Option:	Enabled
Local Use Option:	Enabled
Initial Paging Channel:	333 or 334
Diversity:	Disabled (Enable if equipped)
Abbreviated Memory:	Enabled
End-to-End DTMF:	Enabled
Horn Alert Option:	Enabled

Standard Parameters:

```
      Air Time Counter:  Enabled
      IMTS Combination:  Disabled (Enable if equipped)
        Service Labels:  Enabled
         Service Level:  4
 Select System Program:  Enabled
          Auto Recall:  Enabled
            Lock Mode:  Enabled
   Handsfree Auto Mute:  Disabled

          24-digit Capacity

      Scrambler Option:  Disabled
           Test Mobile:  Disabled
         Station Class:  XX (14 VOX or 10 Normal)
    Signal System Scan:  Disabled
       Ext (N-1) Field:  Disabled
First Channel System A:  333
First Channel System B:  334
Number of Dedicated Channels:  21

Option bits:

Hex Address                B7          B0
        1A                  0 0 0 0 0 0 0 0
        1B                  0 0 0 0 0 0 0 0
        1C                  0 0 0 0 0 0 0 0


            Horn Alert:  N/A
        New Unlock Code:  NAM
          System Select:  RCL + * + * + *, etc.
                          One of the following will
appear:

                          STD AB or STD BA
                          SCAN BA or SCAN AB
                          Home
                          Scan A
                          Scan B
                          Enter Sys ID

                          Press   STO   to   enter
selection.
```

MOTOROLA 8000P DUAL NAM PORTABLE

NAM Type:	E^2 PROM
Manufacturer:	Motorola
Programmer:	Motorola 1801, CelPort
ESN Prefix DEC:	130
HEX:	82
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Security Code:	000XXX (only last three digits used - Unlock Code)
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
MIN Option:	Enabled
Local Use Option:	Enabled
Initial Paging Channel:	333 or 334
Abbreviated Memory:	Enabled
End-to-End Signalling:	Enabled

Standard Parameters:

```
          Keyboard Test:  Enabled
         Service Levels:  Enabled
Selectable System Scan:  Enabled
           Auto Recall:  Enabled
             Lock Mode:  Enabled

        24-digit capacity

        Word Sync Scan:  Enabled
         Station Class:  06
    Single System Scan:  Disabled
       Ext (N-1) Field:  Disabled
            Call Timer:  Enabled
             Auto Lock:  Disabled
First Channel System A:  333
First Channel System B:  334
Number of Dedicated Channels:  21
```

Option Bits:

Hex Address	B7							B0
1A	0	0	0	0	0	0	0	0
1B	0	0	0	0	0	0	0	0
1C	0	0	0	0	0	0	0	1

Hex Address 1C - B0 Enables Call Timer

```
             Horn Alert:  N/A
       New Unlock Code:  NAM
         System Select:  RCL + * + * + *, etc.
                         One of the following will
appear:

                         1:  Pref then Non-pref
                         2:  Non-pref then Pref
                         3:  Home
                         4:  Scan A only
                         5:  Scan B only

                         Press   STO   to   enter
selection.
```

2ND NUMBER PROGRAMMING INSTRUCTIONS

Additional equipment is necessary (in addition to Motorola 1801, Celport and programmer adaptor cables).

RTL 4154A Interface Adaptor
8 Volt Power Supply

1. Complete programming of first number as outlined on previous pages.

2. Turn Motorola 1801 OFF and unplug slide adapter on portable from programmer adaptor box.

3. Reconnect slide adaptor to RTL 4154A Interface Adaptor. Connect 8-volt power supply to RTL 4154A.

4. While holding self test button on RTL 4154A, turn on portable. Press *, then # on portable. (This place portable in keyboard test mode.)

5. Perform the following keystrokes on the portable keypad:
   36#
   1#
   turn portable OFF

6. Disconnect 8-volt power supply.

7. Unplug slide adaptor from RTL 4154A and reconnect to Motorola 1801.

8. Turn Motorola 1801 ON and program second number in the same sequence as the first number. Use the same security code for both programmings.

MOTOROLA 8000S PORTABLE

NAM Type:	E^2 PROM
Manufacturer:	Motorola
Programmer:	Motorola 1801 - Celport
ESN Prefix DEC:	130
HEX:	82
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Security Code:	000XXX (only last three digits used - Unlock Code)
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
MIN Option:	Enabled
Local Use Option:	Enabled
Initial Paging Channel:	333 or 334
Abbreviated Memory:	Enabled
End-to-End DTMF:	Enabled

Standard Parameters:

Keyboard Test:	Enabled
Service Levels:	Enabled
Select System Program:	Enabled
Auto Recall:	Enabled
Lock Mode:	Enabled

24-digit capacity

Word Sync Scan:	Enabled
Station Class:	06
Single System Scan:	Enabled
Ext (N-1) Field:	Disabled
Call Timer:	Enabled
Auto Lock:	Enabled
First Channel System A:	333
First Channel System B:	334
Number of Dedicated Channels:	21

Option Bits

Hex Address	B7							B0
1A	0	0	0	0	0	0	0	0
1B	0	0	0	0	0	0	0	0
1C	0	0	0	0	0	0	0	1

Hex Address 1C - B0 Enable Call Timer

Horn Alert: N/A
New Unlock Code: NAM
System Select: RCL + * + * + *, etc.
One of the following will appear:

1: Pref then Non-pref
2: Non-pref then Pref
3: Home
4: Scan A only
5: Scan B only

Press STO to enter selection.

MOTOROLA 8000X PORTABLE

NAM Type:	E^2 PROM
Manufacturer:	Motorola
Programmer:	Motorola 1801 - Celport
ESN Prefix DEC:	130
HEX:	82
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666 or 832
Phone Number Format:	XXX-XXX-XXXX
Security Code Format:	XXXXXX
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
MIN Option:	Enabled
Local Use Option:	Enabled
Initial Paging Channel:	333 or 334
Abbreviated Memory:	Enabled
End-to-End Signalling:	Enabled

Standard Parameters:

Keyboard Tests:	Enabled
Service Levels:	Enabled
Select System Program:	Enabled
Auto Recall:	Enabled
Lock Mode:	Enabled

24-digit capacity

Word Sync Scan:	Enabled
Station Class:	06
Single System Scan:	Disabled
Ext (N-1) Field:	Disabled
Call Timer:	Enabled
Auto Lock:	Enabled
First Channel System A:	333
First Channel System B:	334
Number of Dedicated Channels:	21

Option Bits

Hex Address	B7							B0
1A	0	0	0	0	0	0	0	0
1B	0	0	0	0	0	0	0	0
1C	0	0	0	0	0	0	0	1

Hex Address 1C - B0 Enables Call Timer

Horn Alert: N/A
New Unlock Code: NAM
System Select: RCL + * + * + *, etc.
One of the following will appear:

1: Pref then Non-pref
2: Non-pref then Pref
3: Home
4: Scan A only
5: Scan B only

Press STO to enter selection.

NEC 1000, 3500, 5000 and 7000

```
              NAM Type:  Open Collector
          Manufacturer:  NEC
            Programmer:  Curtis or Bytek

     ESN Prefix   DEC:  135
                  HEX:  87
ESN, S/N Match Required:  Yes

 Programmable Handset:  No

   Available Channels:  666

  Phone Number Format:  XXX-XXX-XXXX
          Lock Code (1000) or
     Security Code (Other Models):  XXX
     System ID Format:  XXXXX

    Horn Alert Option:  1
     Handsfree Option:  0 (1 on 1000 if equipped)
(Handsfree on 3500, 5000, and 7000 are activated
          by handset:
       OPT + 601 + * + 1 + # to activate
       OPT + 601 + * + 0 + # to cancel)

End-to-End Signalling:  1
     Repertory Option:  1

      Group ID Format:  XX
Access Overload Class:  XX
        Station Class:  0000 (Binary) or 00 (Decimal)

     Local Use Option:  1
           MIN Option:  1

Initial Paging Channel:  333 or 334
     Preferred System:  0 (B) or 1 (A)


     Horn Alert:  1000     Turn key on side of handset
      cradle to LOCK/AUX.  The NO SERVICE indicator will
      flash.

    Other models  OPT + 7

 New Unlock Code:  1000 - NAM
       Other Models - OPT + 3 + Current 4-digit Unlock
        Code + * + NEW 4-digit Unlock
        Code + * + # (for auto lock)
     or
        OPT + 3 + Current 4-digit Unlock
        Code + * + New 4-digit Unlock
        Code + # + # (No auto lock)
          new unlock Code 1234 present at factory.
```

System Select: 1000 - N/A
Other Models - OPT + 2 + X

X=0 Normal
X=1 AB
X=2 BA
X=3 Home only
X=4 Roam only
X=5 A only
X=6 B only
X=7 System ID only

Press CLR to enter selection.

NEC 3700, 4500 AND 4600

NAM Type: EE PROM
Manufacturer: NEC
Programmer: Handset with NEC adaptor
ESN Prefix: Dec 135 Hex 87
ESN/Serial Number Match: Yes
Handset Programmable: Yes with NEC adaptor
Number of Channels: NEC 3700: 832
NEC 4500: 666
NEC 4600: 832

Programming Sequence: Insert programming adaptor in series with data cable at trasceiver
Attach load to antenna port
Power ON
Enter test mode: RCL + # + 01
Enter programming mode: RCL + # + 71
Press # to enter data and increment
To exit programming mode hold CLR
To exit test mode: RCL + # + 02

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX
2	Lock Code	4	XXXX
3	System ID	5	XXXXX
4	Group ID	2	XX
5	Initial Paging Channel	3	333 or 334
6	Preferred System	1	0 (B) or 1 (A)
7	Access Overload	2	XX
8	MIN Opt	1	1

IF PHONE HAS DUAL NAM SOFTWARE (579D/IC505/VS.1) IN SOCKET IC505, THEN FOLLOW NEC 4700 DUAL NAM INSTRUCTIONS.

Horn Alert: FCN + 3
New Unlock Code: NAM
System Select: FCN + 5 + 5 + 5 etc. (until one of the following appears)
Standard (AB or BA)
H Only
A Only
B Only

NEC 3800 AND 4800

NAM Type: EE PROM
Manufacturer: NEC
Programmer: Handset with NEC Program Adaptor (Part #41-2019) and Conversion
Cable (Part #19-0157)
ESN Prefix: Dec 135 Hex 87
ESN/Serial Number Match: Yes (135 + Last 8 Digits of Serial Number)
Stamped Model Number: 3800: TR5E800-31B
4800: TR5E800-31A

Number of Channels: 832
Programming Sequence:Connect programming adaptor and cable to transceiver
Power ON with PWR button
Enter test mode: RCL + # + 0 + 1
Select NAM number with the following sequence
3800 (0 or 1)
4800 (0, 1, 2 or 3)
Press RCL + # + 7 + 6 + X + #
X = 0 (NAM 1)
X = 1 (NAM 2)
X = 2 (NAM 3-4800 Only)
X = 3 (NAM 4-4800 Only)
Enter programming mode: RCL + # + 7 + 1
Press # to enter data and increment
To exit programming mode hold CLR
To exit test mode: RCL + # + 0 + 2

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX+#
2	Lock Code	4	XXXX+#
3	System ID	5	XXXXX+#
4	Group ID	2	XX+#
5	Initial Paging Channel	3	333 or 334+#
6	Preferred System	1	[0 (B) or 1 (A)}+#
7	Access Overload	2	XX+#
8	MIN Opt	1	1+#
9	Local Use	1	1+#
10	Emergency Number	3	911+#

Press CLR to exit programming mode
Press RCL + # + 0 + 2 to exit tet mode

Display ESN:Insert Program Adaptor
Enter Test Mode: RCL + # + 01
Press RCL + # + 24 (ESN will Display)
Press RCL + # + 02 (To Exit Test Mode)

Horn Alert(3800):FCN + 3 (Press 3 again to toggle) + Turn Ignition Off
Horn Alert(4800):FCN + 8 + 1 + (+ or - key to toggle) + STO + Turn Ignition Off
New Unlock Code:NAM (Optional temporary lock is also

available)

System Select(3800): FCN + 5 + 5 + 5 etc.

(One of the following prompt will appear)

Standard (AB or BA)
Home Only
System A Only
System B Only
Press CLR to exit

System Select(4800):FCN + 5 + 3 + (+ or - to scroll choices) + STO+ CLR

Choices Include: Standard (AB or BA)
Home Only
A Only
B Only

NEC 4700

NAM Type: EE PROM
Manufacturer: NEC
Programmer: Handset with NEC Program Adaptor
ESN Prefix: DEC 135 Hex 87
ESN/Serial Number Match: Yes
Handset Programmable: Yes, with NEC adaptor
Number of Channels: 832
Programming Sequence:Insert programming adaptor in series
with data cable at transceiver
Attach load to antenna port
Power ON
Enter test mode: RCL + # + 01
Press RCL + # + 760 + # (NAM 1)
or
Press RCL + # + 761 + # (NAM 2)
(Select NAM 1 or 2 only if dual NAM equipped)*
Enter programming mode: RCL + # + 71
Press # to enter data and increment
To exit programming mode hold CLR
To exit test mode: RCL + # + 02

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX+#
2	Lock Code	4	XXXX+#
3	System ID	5	XXXXX+#
4	Group ID	2	XX+#
5	Initial Paging Channel	3	333 or 334+#
6	Preferred System	1	[0 (B) or 1 (A)]+#
7	Access Overload	2	XX+#
8	MIN Opt	1	1+#
9	Local Use	1	1+#

*IF PHONE HAS DUAL NAM SOFTWARE (579D/IC505/V2.1) IN SOCKET IC505, THEN FOLLOW DUAL NAM INSTRUCTIONS.

Display ESN:Insert Program Adaptor
Enter Test Mode: RCL + # + 01
Press RCL + # + 24 (ESN will Display)
Press RCL + # + 02 (To Exit Test Mode)

Horn Alert:FCN + 3 + Turn Ignition Off
New Unlock Code: NAM (Optional temporary lock is also available)
System Select: FCN + 5 + 5 + 5 etc.
(One of the following prompts will appear)
Standard (AB or BA)
Home Only
System A Only
System B Only

Press CLR to exit

NEC 9000 AND 9100 PORTABLE

NAM Type: EE PROM
Manufacturer: NEC
Programmer: Handset
ESN Prefix: Dec 135 Hex 87
ESN/Serial Number Match: Yes
Handset Programmable: Yes, provided programming adaptor and charger are available.
Number of Channels: 832
Programming Sequence:Remove portable battery
Replace with fully charged NEC programming adaptor
Power ON
Place portable in charger
[(9100 only) Select one of multiple NAMs with the sequence: FCN + STO + 3 + 3 (to toggle)]
Enter test mode: RCL + # + 0 + 1
If ERROR appears, press RCL + # + 0 + 2 to clear
Enter programming mode: RCL + # + 7 + 1
Phone Number will display
Press # to enter data and increment
To exit programming mode hold CLR
To exit test mode: RCL + # + 0 + 2

5 Item Programming (prior to #7Y-101877)

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX
2	Lock Code	4	XXXX
3	System ID	5	XXXXX
4	Preferred System	1	0 (B) or 1 (A)
5	Access Overload	2	XX
6	Preferred System	1	0 (B) or 1 (A)

8 Item Programming #7Y-101877 and above

Step		# of Digits	
1	Mobile	10	XXX-XXX-XXXX
2	Lock Code	4	XXXX
3	System ID	5	XXXXX
4	Group ID	2	XX
5	Initial Paging Channel	3	XXX
6	Preferred System	1	0 (B) or 1 (A)
7	Access Overload	2	XX
8	MIN Opt	1	1

New Unlock Code: NAM
(An optional temporary lock is also available on this mode)

System Select: FCN + 5 + 5 + 5 etc.
(Until one of the following prompts appears)
Standard (AB or BA)
Home Only
Sys A Only
Sys B Only

Press CLR to exit.

NEC P200 AND P300 PORTABLES

NAM Type: EE PROM
Manufacturer: NEC
Programmer: Keypad with adaptor (Part #41-2019)
ESN Prefix: Dec 135 Hex 87
ESN/Serial Number Match: Yes
Number of Channels: 832

Programming Sequence:Insert Program adaptor into bottom of portable(Before Serial Number Power ON 135-839601)
Select NAM Number: RCL + # + 7 + 6 + NAM Number (0-3) + #
Program NAMs in sequential order only (i.e. 0 then 1, 1 then 2 etc)
Enter Program Mode: RCL + # + 7 + 1
Enter information for each step, then press # to store parameter
Press and hold CLR to program data and exit Program Mode

Programming Sequence:Insert Program adaptor into bottom of portable (After Serial Number Power ON 135-839601)
Press RCL + # + 0 + 1 (To enter Test Mode)
Select NAM Number: Press RCL + # + 7 + 6 + NAM Number (0-3) + # (Start with NAM 00
Enter Program Mode: RCL + # + 7 + 1
Enter information for each step, then press # to store parameter
Press and hold CLR to program data and exit Program Mode
Press RCL + # + 0 + 2 (To exit Test Mode)

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX + #
2	Lock Code	4	XXXX + #
3	System ID	5	XXXXX + #
4	Group ID	2	XX + #
5	Initial Paging Channel	4	[033 or 0334] + #
6	System Select	1	[1(A) or 9 (B)]+#
7	Access Overload	2	XX + #
8	MIN Opt	1	1 (Enable) + #
9	Local Use	1	1 (Enable) + #
10	Emergency Number	3	XXX + # (i.e. 911)

Press CLR to Exit
Press RCL + # + 0 + 2 (To Exit Test Mode) (Newer Models Only)
Remove Program Adaptor

New Unlock Code: NAM

```
Sytem Select(P200):          FCN + 5 + 5 + 5 etc.
        (One of the following prompts appears)
                             Standard    (AB or BA)
                             Home Only
                             Sys A Only
                             Sys B Only

                             Press CLR to exit

System Selec(P300):FCN + 5 + 3 + #(or Vol UP/Down) (to
                             scroll choices)
        Options include:  AB or BA (Standard)
                          Home
                          A Only
                          B Only

                             Press STO to enter selection
                             Press CLR to exit
```

NEC P400 AND P600 PORTABLES

NAM Type: EE PROM
Manufacturer: NEC
Programmer: Keypad with adaptor (Part #NECAM 150-0268) and conversion cable (Part #NECAM 204-0324)
ESN Prefix: Dec 135 Hex 87
ESN/Serial Number Match: Yese
Stamped Model Number: P400 or P600
Number of Channels: 832
Programming Sequence:Connect program adaptor (Part # NECAM 150-0268) To conversion cable (Prt # NECAM 2204-0324).
Plug conversion cable into portable.
Power ON and wait for phone initialize.
Enter # + 7 + 1 to enter tet mode.
Select Nam Number: RCL + # + 7 + 1 + # (For NAM #1) or RCL + # + 7 + 1 + NAM Number (2-4) + #
P400 has 2 NAMs and the P600 has 4 NAMs.
Program NAMs in sequential order only (i.e. 1 then 2, 2 then 3 etc)
Enter information for each step, then press # to store parameter
Press and hold CLR to program data and exit Program Mode.
Press RCL + # + 0 + 2 to return to standby.

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX + #
2	Lock Code	4	XXXX + #
3	System ID	5	XXXXX + #
4	Group ID	2	XX + #
5	Initial Paging Channel	4	[0333 or 0334] +#
6	System Select	1	[1(A) or 0 (B)]+#
7	Access Overload	2	XX + #
8	MIN Opt	1	1 (Enable) + #
9	Local Use	1	1 (Enable) + #
10	Emergency Number (i.e. 911)	3	XXX + #
11	FCN Stat 1 = continuous power 0 = 5 hour shut off	1	0 + #

Press CLR to Exit
Press RCL + # + 0 + 2 (To Exit Test Mode)
Remove Program Adaptor

New Unlock Code: NAM
Progam Permanent Memory:Connect Program Adaptor (Part #NECAM 150-0268) And Conversion Cable (Part # NECAM 204-0324) to portable telephone. Memory locations 70 through 99 can be programmed with non-erasable numbers.

With cable and adaptor in place, Power phone "ON". Enter telephone number + STO + Memory Location(70-99)
System Select:FCN+5+4+RCL+RCL+RCL (to scroll choices)
Options include:AB or BA (Standard),Home,A Only,B Only
Press CLR to exit

NOKIA 101 AND 1000 PORTABLES

NAM Type: EE PROM
Manufacturer: NOKIA
Programmer: Keypad (Provided current security code is known-if not, service adaptor is necessary to access program parameters)
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Stamped Model Number: 101: THA - 6
1000: THA - 62
Number of Channels: 832
Programming Sequence: Power ON
Enter Program Mode: * + 3001+#+XXXXX+STO+ 0 +)
XXXXX = 12345 (new phones)
XXXXX = Current Security Code
"Store Not Done" will display
If "Not Allowed" displays, verify that the correct code has been entered
This phone programs in 5 steps with multiple parameters programmed into each step.
The # and * keys are used to separate NAM parameters within the step
To verify parameters, Press RCL + Step Number(01- 05)
Once programming is complete, power phone OFF then ON to exit Program Mode

Step		# of Digits
01	Emergency Number,#, Emergency Number,#, Language(0=English, 1=French & 2=Spanish). * and	911#*911#0*1234 + STO + 01 + STO + CLR Unlock Code
02	Mobile Number 1 (10 digits)	XXX-XXX-XXXX+STO+ -2+CLR
03	SID, *, MIN Opt, *, Local Use, *, Initial Page Channel, *, Access Overload, *, Group ID (NAM 1)	XX*1*1*XXX*XX*XX+STO+03 + STO + CLR
04	Mobile Number 2 (Ten Digits)	XXX-XXX-XXXX + STO + 04 + STO + CLR
05	SID, *, MIN Opt, *, Local Use, + STO + 05 *, Initial Page Channel, *, + STO + CLR Access Overload, *, Group ID (NAM 2)	XX*1*1*1XXX*XX*XX

Power Phone OFF and ON to complete programming
New Unlock Code: NAM
System Select: SEL + 1 + 1 + 1 etc. (To scroll choices)
Home, A, B, Both (AB and BA)

NOKIA-MOBIRA LX-11 AND M-11

NA Type: EE PROM
Manufacturer: NOKIA MOBIRA
Programmer: Handset or LX-11 Service Handset
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes, either a match or subtract 737856 from serial Number for ESN
Handset Programmable: Yes, security code must be known
Number of Channels: 832

Programming Sequence: Power ON
Enter Programming Mode: * + 3001 + # + XXXXX + SEL + 9 + END
XXXXX = 12345 (from factory) or
XXXXX = Current Security Code (NAM)
"IdEnt IF InFO Pri" will display
Press END key to step through parameters
To toggle parameters, press SND (ie., Pref System)
Once last parameter is entered and END key is pressed, the information is stored in the NAM

Programming Sequence for Second Nam:
Enter Programming Mode described above
"IdEnt IF InFO Pri~ will display
Press SND to toggle to secnd NAM
"IdEnt IF InFO OPT" will display
Press END, "OPt InFO EnABLEd" appears
Press END key to tsep through parameters and program as outlined above

Step		# of Digits	
1	System ID	5	XXXXX
2	Access Method (MIN	1	1 Opt)
3	LOCL OPT (Local Use)	1	1
4	Phone Number	10	XXX-XXX-XXXX
5	Station Class	2	08
6	Initial Page Channel	3	333 or 334
7	Access Overload	2	XX
8	Preferred System	1	A or B (SND to toggle)
9	Group ID	2	XX
10	Security Code	4	XXXXX
11	Manufacture Date (Can't be Changed)		
12	Installation Date	6	mm/dd/yy
13	"Prog Done" will appear		

Horn Alert (Option): SEL + 2 + Turn Ignition Off
New Unlock Code: SEL + 5 + (5 Digit Security Code) + SEL (Unlock Code Displays) + New 4 Digit Unlock Code + SEL
System Select: SEL + 1 + 1 + 1 (To Scroll Choices)
Both Standard (AB or BA)
H Home (A Only or B Only)
Non H Non-Home Systems Only (A Only or B Only)
H Sid Home Only
Press SEL to enter selection

NOKIA MOBIRA M-10

NAM Type: EE PROM
Manufacturer: NOKIA MMOBIRA
Programmer: Phone Handset or Service Handset
ESN Prefix: DEC 165 Hex A5
ESN/Serial Number Match: Yes, either a match or subtract 737856 from serial number for ESN.
Handset Programmable: Yes, provided lock code is known. Otherwise service handset is necessary.
Number of Channels: 832

Programming Sequence: Power ON
Enter programming mode: *17*3001*XXXX*
Where XXXX = 1234 (new phones)
XXXX = Current unlock code
Once last item is entered then phone is returned t o normal operation SEL button increments steps

Step		# of digits	
1	System ID	5	XXXXX
2	MIN Opt	1	1
3	Local Use	1	1
4	Phone Number	10	XXX-XXX-XXXX
5	Station Class	2	08
6	Initial Paging Channel	3	333 or 334
7	Access Overload	2	XX
8	Group ID	2	XX
9	Unlock Code	4	XXXX

Horn Alert: SEL + 2

New Unlock Code: NAM

System Select: SEL + 1 + 1 + 1 etc (until one of the following prompts appears)
A A Only
A B Only
S AB or BA
H Home

Press CLR to exit

NOKIA-MOBIRA P-30
PORTABLE

NAM Type: EE PROM
Manufacturer: NOKIA-MOBIRA
Programmer: Keypad or service adaptor
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Handset Programmable: Yes, provided security code is known. Otherwise, test adaptor is necessary
Number of Channels: 832

Programming Sequence: Power On
Enter Access Code
* + 17 + * + 2001 + * + XXXXX + *
where XXXXX = 12345 (from factory)
or XXXXX = Current security code
HO-Id should appear in display
Press SEL to enter data and increment
Phone automatically writes NAM information upon completion of final step

Step		# of Digits	
1	System ID	5	XXXXX
2	MIN Opt	1	1
3	Local Use	1	1
4	Mobile Number	10	XXX-XXX-XXXX
5	Station Class	2	10
6	Initial Page Channel	3	333 or 334
7	Access Overload	2	XX
8	Group ID	2	XX
9	Security Code	5	XXXXX

New Unlock Code:SEL + 7 + 5 Digit Security Code (NAM) + CLR + New 4 Digit Unlock Code

System Select:SEL 1 + 1 + 1 etc. (One of the following prompts will appear)
S Standard (AB or BA)
A A Only
B B Only
H Home Only
Display will clear in two seconds

NOKIA MOBIRA P4000 AND PT 612 PORTABLE

NAM Type: EE PROM
Manufacturer: NOKIA MOBIRA
Programmer: Keypad (Provided current security code is known. If not,service adaptor is necessary to access program parameters)

ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Number of Channels: 832

Programming Sequence: Power ON
Enter Program Mode: * + 3001 + # + XXXXX + SEL + 9 + END
XXXXX = 12345 (new phones)
XXXXX = Current Security Code
"IDENTIF INFO PRI" will display (Press SND to toggle "on" if necessary)
Press END to step through parameters
To toggle parameters, press SND (i.e. Pref System)
Once programming is complete, power phone OFF then ON to exit Program Mode

Step		# of Digits	
1	System ID	5	XXXXX + END
2	Access Method (MIN Opt)	1	1 + END
3	LOCL OPT (Local Use)	1	1 + END
4	Mobile Number	10	XXX-XXX-XXXX + END
5	Station Class	2	10 + END
6	Initial Paging Channel	3	(333 or 334) + END
7	Access Overload	2	XX + END
8	Preferred System - Press SND to Toggle		(A or B) + End
9	Group ID	2	XX + END
10	Security Code	5	XXXXX + END
11	Serial Number (Same as Stamped Number)		Press END
12	Manufacturer Date		Press END
13	Installation Date	6	MM/DD/YY + END

Power phone OFF and ON to complete programming or return to "IDENTIF INFO
PRI" to program 2nd NAM.

Programming Second Nam: With "IDENTIF INFO PRI" on display, press SND to toggle to "IDENTIF INFO OPT" (to program second NAM)
Enter information for Steps 1-13 for the 2nd NAM
Power phone OFF and ON to complete the program process
New Unlock Code: SEL + 5 + 5 Digit Security Code (NAM) (Current Unlock Code Will Display) + New 4 Digit Unlock Code+SEL

System Select: SEL + 1 + 1 + 1 etc. (To scroll choices) Home, A, B, Both (AB and BA)

NAM Type: EE PROM
Manufacturer: NOVATEL
Programmer: Handset
ESN Prefix: Dec 142 Hex 8E
ESN/Serial Number Match: No
Handset Programmable: Yes
Number of Channels: 666 or 832

Programming Sequence: Power ON
Lock Phone: FCN + 1
Enter Programming Mode: # + 2 + 5 + 9
ESN will Display
Press Vol UP button to increment or
Vol DN to decrement
Enter data for each step then press SND
after each step
Press END to write NALM information

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX
2	System ID	5	XXXXX
3	Initial Paging Channel	3	333 or 334
4	Access Overload	2	XX
5	Group ID	2	XX
6	Initial Paging Channel	3	333 (A)
7	Initial Paging Channel	3	334 (B)
8	Data Scanning Table	1	1
9	Lock Code (1) (see owner's manual)	4	XXXX
10	Lock Code (2) (see owner's manual)	4	XXXX
11	Invalid ID (system ID should not roam on)	5	XXXXX
12	Invalid ID-see Step 8	5	XXXXX
13	Invalid ID-see Step 8	5	XXXXX
14	Invalid ID-see Step 8	5	XXXXX
15	Local Use - SND to toggle		SET
16	EX (MIN Opt) - SND to toggle		SET
17	Preferred System - SND to toggle		SET (A) or CLR (B)
18	Non-Preferred System roam inhibit - SND to toggle		CLR
19	End-to-End Signaling SND to toggle		SET

20-21 Fast Dial & Manual Fast Dial
set DTMF length. Press SND to toggle each

FD	MFD		
CLR	CLR	Silent	
CLR	SET	Auto Mode	
SET	CLR		FD-CLR
SET	SET	Manual Mode	MFD-SET

22	32 Digit Dialing - SET 16 Digit Dialing - CLR SND to Toggle	SET
23	Call Timer 30 second hold on mobile originated calls when SET-SND to toggle	CLR
24	Call Timer 30 second hold on land line originated calls when SET-SND to toggle	CLR
25	Call Timer round up to next minute when SET-SND to togge	SET
26	No land-to-mobile option - for Europe only	CLR
27	On-Line-Diagnostic SND to toggle	SET

IF THE PHONE IS EQUIPPED WITH CA06 OR LOWER SOFTWARE, THE PHONE CAN BEPROGRAMMED A MAXIMUM OF 3 TIMES FROM THE HANDSET. TO COMPLETE THE 4TH PROGRAMMING, THE PHONE MUST BE RE-INITIALIZED BY AN AUTHORIZED NOVATEL SERVICE FACILITY.

NOVATEL 8305
(EXCLUDING CA 08 SOFTWARE)*

NAM Type: EE PROM
Manufacturer: NOVATEL
Programmer: Handset
ESN Prefix: Dec 142 Hex 8E
ESN/Serial Number Match: No
Number of Channels: 832
Programming Sequence: Power ON
Lock Phone: FCN + 1
Enter Programming Mode: # + 2 + 5 + 9
Press Vol UP to view Software version and ESN in HEX
Press Vol UP to increment and Vol DN to decrement
Enter data for each step then press SND after each step
Press END to write NAM information

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX
2	Initialize Memory Locations		SND (then wait)
3	System ID	5	XXXXX
4	Initial Page Channel	3	333 or 334
5	Access Overload	2	XX
6	Group ID	2	XX
7	Initial Page Channel	Preset	Vol UP (A)
8	Initial Page Channel	Preset	Vol UP (B)
9	Data Scanning Table	Preset	
10	Full Lock Code	Preset/Handset	
11	Restricted Lock Code	Preset/Handset	
12	Invalid ID 1	5	XXXXX
12B	Invalid ID 2	5	XXXXX
12C	Invalid ID 3	5	XXXXX
12D	Invalid ID 4	5	XXXXX

*if phone has CA06 software or lower, phone can be programmed 3 times only.
To program phone a 4th time, there are 2 options:
#1 - Upgrade software to CA07 or newer
#2 - Reset MIN counter, with service compact cotrol unit (available from NOVATEL)

13	Local Use - SND to Toggle	SET
14	EX (MIN Opt) - SND to Toggle	SET
15	Preferred System-SND to Toggle	SET (A) or CLR (B)
16	Roam Inhibit - SND to Toggle	CLR
17	Quick Recall - SND to Toggle	SET
18	Quick Store - SND to Toggle	SET
19	Wake Up Tone - SND to Toggle	SET
20	End-to-End Sig - SND to Toggle	SET
21	Fast Dial - SND to Toggle	SET
22	Manual Fast Dial-SND to Toggle	SET
23	32 Digit Dialing-Snd to Toggle	SET
24	Call Timer 30 second hold on mobile line originated	

	calls when SET - SND to Toggle	CLR
25	Call Timer 30 second hold on land line originated calls when SET - SND to Toggle	CLR
26	Call Timer round up next minute when SET - SND to Toggle	SET
27	No Land-to-Mobile Option for Europe only	CLR
28	Horn Alert - SND to Toggle	SET
29	On-Line Diagnostics - SND to Toggle	SET

NOVATEL 8305
(CA 08 SOFTWARE)

NAM Type: EE PROM
Manufacturer: NOVATEL
Programmer: Handset
ESN/Prefix: DEC 142 Hex 8E
ESN/Serial Number Match: Yes
Number of Channels: 832
Programming Sequence: Power On
Lock Phone: FCN + 1
Enter Programming Mode: # + 2 + 5 + 9
Press Vol UP to view Software version and ESN in HEX
Press Vol UP to increment and Vol DN to decrement
Enter data for each step then press SND after each step
Press END to write NAM information

Step		# of Digits	
1	Initialize Memory Locations		SND (then wait)
2	System ID	5	XXXXX
3	Mobile Number	10	XXX-XXX-XXXX
4	Full Lock Code	Preset/Handset	
5	Restricted Lock Code	Preset/Handset	
6	EX (MIN Opt) - SND to Toggle		SET
7	Initial Page Channel	3	333 or 334
8	Access Overload	2	XX
9	Group ID	2	XX
10	Initial Page Channel	Preset	Vol UP (A)
11	Initial Page Channel	Preset	Vol UP (B)
12	Data Scanning Table	Preset	1
13A	Invalid ID 1	5	XXXXX
13B	Invalid ID 2	5	XXXXX
13C	Invalid ID 3	5	XXXXX
13D	Invalid ID 4	5	XXXXX
14	Local Use - SND to Toggle		SET
15	Preferred System - SND to Toggle		SET (A) or CLR (B)
16	Roam Inhibit - Snd to Toggle		CLR
17	Manufacturer Option		CLR
18	Quick Recall-SND to Toggle		SET
19	Quick Store -SND to Toggle		SET
20	Wake Up Tone-SND to Toggle		SET
21	End-to-End Sig-SND to Toggle		SET
22	Fast Dial - SND to Toggle		SET
23	Manual Fast Dial - SND to		SET Toggle
24	32 Digit Dialing - SND to		SET Toggle
25	Call Timer 30 second hold on mobile originated calls when SET - SND to Toggle		CLR
26	Call Timer 30 second hold on land line originated calls when SET - SND to Toggle		CLR
27	Call Timer round up to next minute when SET - SND to Toggle		SET
28	No Land-to-Mobile Option for Europe only		CLR
29	Horn Alert - SND to Toggle		SET
30	On-Line Diagnostics - SND to		SET Toggle

NOVATEL 8320
(Includes HP-3000 Series)

NAM Type: EE PROM
Manufacturer: NOVATEL
Programmer: Handset
ESN Prefix: Dec 142 Hex 8E
ESN/Serial Number Match: Yes
Number of Channels: 832

Programming Sequence: Phone ON
Lock Telephone: FCN + 1 + SND
Enter Program Mode: # + 2 + 5 + 9
Software Version will Display
Press Vol UP to view ESN
Press Vol UP to and select NAM (0-4)
0 = Parameters common to all NAMs (i.e. timer, initialization tone, memory info, and horn alert)
1 = NAM 1; 2 = NAM 2; 3 = NAM 3; 4 = NAM 4
(Recommend - Press NAM 0 First)
If a number is entered for a parameter, press SND to enter information (i.e. System ID)
If a parameter is toggled (between enabled and disabled), press SND to toggle (i.e. Horn Alert)
Once the parameter is entered, press Vol UP to view the net step.
To perform programming, press END (END will also allow access to tamperproof protection and NAM select)

NAM 0
(If "View NAM Only" appears, the tamperproof protection has been enabled and the phone's 6 digit security code must be entered to continue)

Step		# of Digits
1	Initialize Memory Locations	Press SND-Wait + Vol UP
2	Full Lock Code	Preset/Handset + Vol UP
3	Restricted Lock Code	Preset/Handset + Vol UP
4	9 Number Quick Recall	Set(SNDtoToggle)+Vol up
5	9 Number Quick Store	Set(SNDtoToggle)+Vol UP
6	Initialization Tone	set(SNDtoTogle)+VolUP
7	Call Timer 30 second hold on mobile originated calls when SET-Press SND to Toggle	CLR + Vol UP
8	Call Timer 30 second hold on land line originated calls when SET - Press SND to Toggle	CLR + Vol UP
9	Call Timer round up to next minute when SET-Press SND to Toggle	SET + Vol UP
10	End-to-End Signaling-Press SND to Toggle	SET + Vol UP
11	No Land to Mobile Option-disables call timer for incoming calls	CLR + Vol UP
12	Horn Alert - Press SND to Toggle	SET + Vol UP
13	ON-Line Diagnostics-Press SND to Toggle	SET + Vol UP

Press END (Press END 1, 2 or 3 times-depending on the current location in program sequence) to return to NAM select, Additional Program Parameters or Tamperproof Protection

NAM 1 - NAM 4

(If "View NAM Only" appears, the tamperproof protection had been enabled and the phone's 6 digit security code must be entered to continue)

Step		# of Digits	
13	Mobile Number	10	XXX-XXX-XXXX+SND+Vol UP
14	System ID	5	XXXXX + SND + Vol UP

Press END to return to NAM select, Additional Program Parameters or Tamperproof Protection

NAM 1 - NAM 4 Additional Program Parameters
(If "View NAM Only" appears, the tamperproof protection has been enabled and the phone's 6 digit security code must be entered to continue)

Step		# of Digits	
16	Initial Paging Channel	Preset-Do Not Change	333or334+Vol UP
17	EX (MIN Opt)-SND to	toggle	SET + Vol UP
18	Initial Page Channel A	Preset-Do Not Change	333 + Vol UP
19	Initial Page Channel B	Preset-Do Not Change	334 + Vol UP
20	Access Overload	2	XX + SND+Vol UP
21	Group ID	2	XX + SND+Vol UP
22	Data Scan Table	Preset-Do Not Change	1 + Vol UP
23	Local Use	Press SND to Toggle	SET + Vol UP
24A	Invalid System ID 1	5	XXXXX+SND+Vol UP
24B	Invalid System ID 2	5	XXXXX+SND+Vol UP
24C	Invalid System ID 3	5	XXXXX+SND+Vol UP
24D	Invalid System ID 4	5	XXXXX+SND+Vol UP
25	Fast Dial (Allows DTMF)	Press SND to Toggle	SET + Vol UP
26	Manual Fast Dial (Allows DTMF)	Press SND to Toggle	SET + Vol UP
27	32 Digit Dial	Press SND to Toggle	SET + Vol UP
28	Preferred System	Press SND to Toggle	SET(A)orCLR(B) + Vol UP
29	Intersystem Roam Inhibit (A only or B Only)	Press SND to Toggle	CLR + Vol UP
30	Signal Strength Display (Step 29 must be enabled)	Press SND to Toggle	CLR + Vol UP

Press END to return to NAM Select, Additional Program Parameter or Tamperproof Protection.

```
31        Tamperproof Protection-Press SND to Toggle On or Off
32        Once enabled.  Enter the new 6 digit password + SND
33        Enter new 6 digit password a second time + SND

Press END to return to NAM select, Additional Program Parameters
or Tamperproof Protection
```

NOVATEL AURORA 100 and 200 SERIES

NAM Type:	Tri-State
Manufacturer:	Novatel
Programmer:	Curtis or Bytek
ESN Prefix DEC:	142
HEX:	8E
ESN, S/N Match Required:	No
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
System ID Format:	XXXX
Horn Alert Option:	1
Handsfree Option:	0 (1 if equipped)
End-to-End Signalling:	1
Repertory Option:	1
Group ID Format:	XX
Access Overload Class:	XX
Station Class:	0000 (Binary) or 00 (Decimal)
Local Use Option:	1
MIN Option:	1
Initial Paging Channel:	333 or 334
Preferred System:	0 (B) or 1 (A)

THIS NAM MUST BE PROGRAMMED WITH THE CURTIS OR BYTEK PROGRAM BECAUSE NOVATEL USES A DIFFERENT METHOD OF DETERMINING THE NAM CHECK-SUM THAN THE MOTOROLA 1801.

Horn Alert:	FCN/PWR + HRN/SND
New Unlock Code:	NAM
System Select:	N/A

Display ESN (in Hex)

Aurora and 100 Series: FCN + LCK + 2 + 5 + 9
(within 1 second)
"Debug" will be displayed.
+ CLR + #

200 Series: FCN + LCK + # + 1 + 8 + 5
(Scroll with volume control)

OKI CS1

NAM Type:	Tri-State
Manufacturer:	OKI
Programmer:	Motorola 1801 or Curtis
ESN Prefix DEC:	129
HEX:	81
ESN, S/N Match Required:	Yes (after date code 427A XXXX) (427=Week 27 of 1984)
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled (Enable if equipped)
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Hex Address	B7 B0
13	0 0 0 0 X X X 1

Hex Address 13 - B0 Call Timer
B1 Total Lock
B2 Home System Only
B3 Manual System Select
(1=Enable, 0=Disable)

Horn Alert:	HORN
New Unlock Code:	NAM
System Select:	N/A

OKI 21 AND 23

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Handset
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Number of Channels: 832
Programming Sequence: Step #1 First Time Program only -
Program Dealer Password
Power ON
Press * and # simultaneously-then release
Enter first time password: *12345678#
Display will show "enter PW-STO"
Enter New 10 digit password + STO (recommend 123457890)
Display will show "re-enter PW-STO"
Re-enter 10 digit password (1234567890)+STO
This step restricts programming by those not
aware of current password

Step #2 Programming New or Used Phone
Power ON
Press STO and RCL (Simulatneously) Release
Enter Password within 30 seconds of Power ON
(See First Time Program Info)
Software Version and ESN will Display
Press CLR to enter Program Mode
Initialize Phone (0+0, "Cleared" will appear)
Enter Step number 1-9 and the parameters info
for that step
After entering each step. Press STO to enter data
NAM contents may be scrolled with the
Volume UP and DOWN keys

Press CLR to exit Programming mode

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX + STO
2	System ID	5	XXXXX + STO
3	Initial Paging Channel	4	0333 or 0334 + STO
4	Access Overload	2	XX + STO
5	Lock Code	4	XXXX + STO
6	Group ID	2	XX + STO
7	Station Class	4	1000 + STO
		(Equals 08 in Binary)	
8	Options	4	11X0 + STO
9	Security Code	6	XXXXXX + STO

(1)

Options	MIN Opt	Local Use	Hands Free	Spare
	1	1	0 or 1	0

OKI 21 Phone Operation

Horn Alert: N/A

New Unlock Code: Func+1+8+6 Digit Security Code (NAM)
(Current Unlock Code Will Display) + New 4 Digit Unlock Code+ STO

System Select:FUNC + 2 + 6 Digit Security Code (Current System Setting Displays) + 2 + 2 + 2 etc (to scroll choices) + STO to enter selection

AB or BA
A Only
B Only
Home
Only SID

Press STO to enter selection

OKI 23 Phone Operation

Horn Alert: MENU (3 times) (Until "Review & Set" Displays) + 9 + (Press RCL to toggle function ON or OFF) + Turn Ignition OFF

New Unlock Code: MENU (3 times) (Until ~Review & Set" Displays) + 0 ("Unlock Code Set" displays) + 6 Digit Security Code (Current Unlock Code Displays) +New 4 Digit Unlock Code + STO

System Select: MENU (3 times) (Until "Review & Set" Displays)+ 3 (Current System Setting Will Display) + RCL + RCL + RCL (To Scroll Choices) + STO (To Enter Selection)

AB or BA
A Only
B Only
Home
Only SID

Press STO to enter selection

OKI 200, 300 AND 400 SERIES
(MANUFACTURED BEFORE JANUARY 1, 1989)*

NAM Type: Tri-State
Manufacturer: OKI
Programmer: MOTOROLA 1801-CELNAM, CURTIS OR BYTEK
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Handset Programmable: No
Number of Channels: OKI 200, 300 and 400 (Software Version 808 and 809)
Series: 666
OKI 400 Series: 832 (Software Version 901 or 907)
Phone Number: XXX-XXX-XXXX
Lock Code: XXX
MIN Opt: Enabled
Repertory Opt: Enabled
Handsfree: Disabled (Enable if Equipped)
Local Use: Enabled
End-to-End Signaling: Enable
Horn Alert: Enabled
System ID: XXXXX
Preferred System: A or B
Access Overload: XX
Group ID: XX
Initial Paging Channel: 333 or 334
Station Class: XX

These series of phones muts be initialized after programming and prior to being placed in service. To initialize phone follow the steps listed:

OKI CDL 201/240- FCN + 9 + 9 + Lock Code + 0 + *

All other units- FCN + 9 + 9 + * + Last 8 digits of Mechanical Serial Number + *

*Pre 811 or 903 software (for 400 Series). If phone has later software, see OKI 400 Series handset programming instructions.

Horn Alert:OKI 201
Set - FCN + 9 + 1 + *
Clear - FCN + 9 + 1 + #

OKI 300 Portable
N/A

OKI 210, 230, 410, 420, 430, 440, 450 & 490
Set - FCN + 5 + 0 + *
Clear - FCN + 5 + 0 + #

New Unlock Code:OKI 201, 210, 240, 410, 420, 440, 450 & 490: NAM
OKI 230, 300 Portable and 430:
FCN + 0 + 4 + * + Current Unlock Code (NAM) +
New Unlock Code (8 Digits Maximum) + *

System Select:OKI 201 and 240

FCN + 0 + 1 + Unlock Code + X + *
X = 0 Standard (AB or BA)
X = 1 Alternate (BA or AB)
X = 2 A Only
X = 3 B Only
X = 4 Home

OKI 210, 230, 410, 420, 430, 440, 450 & 490

FCN + 0 + 1 + * + RCL + RCL + RCL
(To scroll options)
Options include:

STD AB or STD BA (Standard)
SCN BA or SCN AB (Alternate)
SCN A (A Only)
SCN B (B Only)
SCN HO (Home)
Enter SID (Enter #)

Press * to enter selection or CLR to exit without changing sel

OKI 3000 Portable

FCN + 0 + 1 + * + RCL + RCL + RCL
(To scroll options)
Options include:

AOUA or AOUB	Standard (AB or BA)	
A1UB or A1UA	Alternate (BA or AB)	
	A2	A Only
	A3	B Only
	A4	Home
	A5U00000	Enter System ID

Press * to enter selection or CLR to exit
without changing setting

OKI 400 SERIES - HANDSET PROGRAMMING (WITH 811, 903, 904 OR 905 SOFTWARE)

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Handset
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Handset Programmable: Yes
Number of Channels: 666 (811 Software) or 832 (903, 904, 905 Software)

Programming Sequence: Power ON
Enter Sequence END + RCL + FCN + CLR + SND
Enter Code: 08693427 (Software 811 or 903)
or
Enter Code: 39061875 (Software 904 or 905)
(904/905 used in CHEVROLET TransP)
Code must be entered within 10 seconds of Power ON
CLR can be used to erase a mistake in input
After inputting data for a specific location, press # to enter, then press * to increment
Press END to write NAM information

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX + # + *
2	System ID	5	XXXXX + # + *
3	Initial Paging Channel	4	[0333 or 0334] + # + *
4	Access Overload	2	XX + # + *
5	Lock Code	3 or 4	[XXX or XXXX] + # + *
6	Group ID	2	XX + # + *
7	Station Class	4	[0000 (811 Software) 1000(903 Software)]+#+*
9	Option Bits	4	11XX + # + *

MIN Opt	Local Use	Hands Free	Horn Alert

(1)
Option Bits
Some of the Models with this software were still equipped with NAM socket.Do NOT attempt to program phone with a NAM if the phone has 811, 903, 904 or 905 software.

Horn Alert: FUNC + 5 + 0 + * (activate)
FUNC + 5 + 0 + # (deactivate)

New Unlock Code: Most Models: NAM
OKI 430: FUNC + 0 + 4 + * +
3-4 digit Security Code (NAM)
New 3-8 digit Unlock Code

System Select:FUNC + 0 + 1 + * + RCL + RCL + RCL (continue pressing RCL until one of the following prompts appears)
SCAN BA, SCAN AB, SCAN A, SCAN B, HOME,
ENTER SID (430 Only)
Press * to enter selection and CLR to exit Function

OKI 610, 630, 691 TRANSPORTABLE AND 692 TRANSPORTABLE

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Handset
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Handset Programmable: Yes
Number of Channels: 832
Programming Sequence: Power OFF
Power ON
Press and hold two keys simultaneously once wake up tone has stopped
Use RCL and MENU for 630 and 692
Use any two number keys for 610 and 691
Release depressed keys and enter Password-0008693427
Software Version and ESN will display
Press CLR to enter Program Mode
Enter Step Number (1 to 9) then enter data
Press * (610 & 691) or STORE (630 & 692) to enter each step.
Once data has been entered, the NAM information can be scrolled with the Vol UP or DN key
Press CLR + CLR to write NAM information

Step		# of Digits	
1	Mobile Number 1	10	XXX-XXX-XXXX
2	System ID 1	5	XXXXX
3	Initial Paging Channel	3	XXX
	1* Press * to Program 2nd Number (630 and 692)		
	*1 Mobile Number 2	10	XXX-XXX-XXXX
	*2 System ID 2	5	XXXXX
	*3 Initial Page Channel	2	3XXX
4	Access Overload	2	XX
5	Lock Code	4	XXXX
6	Group ID	2	XX
7	Station Class (4)	4	1000
8	Options (3)	4	11X1
9	Security Code	6	XXXXXX

(3)-Options Step 8

MIN Opt	Local Use	Hands Free	Horn Alert

0=Disable
1=Enable

(4)-Enter Station Class in Binary (1000 binary = 08 decimal)

New Unlock Code:FUNC + 9 + 2 + 6 digit Security Code (NAM) + New 4 digit Unlock Code + *
System Select:FUNC + 3 + 3 + 3 etc. (to scroll thru selections)

SCN	AB
SCN	BA
SCN	A
SCN	B
SCN	HO (HOME)
SID NO.	(enter System ID #)

Press * to enter selection

OKI 620 AND 693 TRANSPORTABLE

Nam Type: EE PROM
Manufacturer: OKI
Programmer: Handset
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Handset Programmable: Yes
Number of Channels: 832
Programming Sequence: Power OFF
Power ON
After wake up tone has stopped, press and hold the RCL and FUNC keys simultaneously
Release depressed keys and enter Password 0008693427
Software Version and ESN will display
Press CLR to enter Program Mode
Enter Step Number (1 to 9) then enter data
Press STO to enter each step
Once data has been entered, the NAM information can be scrolled with the Vol UP or DN key Press CLR + CLR to write NAM information

Step		# of Digits	
1	Mobile Number 1	10	XXX-XXX-XXXX+STO+VOL DN
2	System ID 1	5	XXXXX + STO + VOL DN
3	Initial Paging	3	XXX + STO + VOL DN Channel 1
			*Press * to Program 2nd Number
*1	Mobile Number 2	10	XXX-XXX-XXXX + STO + VOL DN
*2	System ID 2	5	XXXXX + STO + VOL DN
*3	Init Page Chan 2	3	XXX + STO + VOL DN
4	Access Overload	2	XX + STO + VOL DN
5	Lock Code	4	XXXX + STO + VOL DN
6	Group ID	1	XX + STO + VOL DN
7	Station Class (4)	4	1000 + STO VOL DN
8	Options (3)	4	11X1 + STO + VOL DN
9	Security Code	6	XXXXXX + STO + VOL DN

(3)Options Step 8

MIN Opt	Local Use	Hands Free	Horn Alert

0 = Disable
1 = Enable

(4)-Enter Station Class in Binary (1000 binary = 08 decimal)

New Unlock Code:FUNC + 9 + 2 + 6 digit Security Code (NAM) + New 4 digit Unlock Code + STO

System Select:FUNC + 3 + 3 + 3 etc. (to scroll through selections)

SCN	AB
SCN	BA
SCN	A
SCN	B
SCN	Ho (Home)
SID NO.	(enter System ID #)

Press STO to enter selection

OKI 700 PORTABLE AND ACC91

Nam Type: EE PROM
Manufacturer: OKI
Programmer: Keypad
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Handset Programmable: Yes
Number of Channels: 832

Programming Sequence: Power ON (wait for beep)
Press MENU and RCL simulatenously.
then release
Enter code 0008693427
(within 10 seconds of power on)
ESN will appear in HEX and Software Version
Press CLR to enter Program Mode
Continue to next step for NAM #1 or press *
to program #2
Press Step Number 1 to 9 then enter data for
each step
Press volume UP to increment and volume DOWN
to decrement steps
Press STO to store data for each step
Press CLR + CLR to write NAM information

Step		# of Digits	
1	Mobile Number 1	10	XXX-XXX-XXXX + STO
2	System ID 1	5	XXXXX + STO
3	Initial Page Channel 1	3	XXX + STO
4	Access Overload	2	XX + STO
5	Lock Code	4	XXXXX + STO
6	Group ID	2	XX + STO
7	Station Class (1)	4	1000 (ACC91) + STO 1010 (700 Port) + STO
8	Options (2)	4	XXXX + STO
9	Security Code	6	XXXXXX + STO

(1)Station Class: 1000 (binary) = 08 (decimal) and 1010 (binary) + 10 (decimal)
(2)Options Set 8 MIN Local Hands Horn
0=Disable OPT Use Free Alert
1=Enable

New Unlock Code: MENU + vol UP or DOWN keys until "Unlock Code Set" appears Enter 6 digit Security Code + new 1-8 digit Unlock Code + STO
System Select: MENU + vol UP or DOWN keys until "System" displays. Repeatedly press RCL to scroll selections
Prefer B (BA)
Prefer A (AB)
System A (A Only)
System B (B Oly)
Home Only
Only SID
Press STO to enter selection

OKI 710 PORTABLE

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Keypad
ESN Prefix: Dec 129 Hex 81
ESN/ Serial Number Match: Yes
Number of Channels: 832

PART 1

Programming Sequence: Program Dealer Password First
Press * and # simultaneously then enter *12345678#
Enter 10 digit Dealer Password
Recommended to use 123457890
Press STO to enter password into memory
Unit will request you enter password again
Enter programmed Dealer Password + STO

PART 2

Programming the Phone
Power ON
Press FUNC and RCL simultaneously then release
Enter Dealer Password (See Part I)
(Password must be entered within 30 seconds of power ON)
Software Version will Display
"Spd Dial Mem Cear" then "To Reset
Press o" will display
Press 0 to Clear Memory Locations
(or CLR to pass this step)
"Default Data Set" then "To Reset Press O" will display
Press 0 to reset phone options (or CLR to pass this step)
"NAM 1" then "OWN#" will display
After each Parameter is entered, press
STO to enter data then VOL DOWN to increment
Press CLR to exit (This also allows access to NAM 2)
Repeatedly press CLR to exit Program Mod

Step		# of Digits	
01	Mobile Number	10	XXX-XXX-XXXX+STO+VOL DWN
02	System ID	5	XXXXX + STO + VOL DOWN
03	Initial Paging Channel	4	0333or0334+STO+VOL DOWN
04	Access Overload	2	XX + STO + VOL DOWN
05	Unlock Code	4	XXXX + STO + VOL DOWN
06	Group ID	2	XX + STO + VOL DOWN
07	Station Class	4	1010 (10 in Binary)+STO + VOL DOWN
08	Options (1)	4	11X0 + STO + VOL DOWN
09	Security Code	6	XXXXXX + STO + VOL DOWN

(1)Step 8 Options:

MIN Opt	Local Use	Handsfree	Not Used
1	1	0 (Disable) or 1 (Enable)	0

Programming NAM #2

Programming Sequence: Press CLR after Programming NALM 1
Enter Mobile Number #2 + STO + VOL DOWN
Enter System ID #2 + STO + VOL DOWN
Enter Initial Paging Channel #2+ STO +VOL DOWN
Press CLR to exit
Press CLR again to exit Program Mode

New Unlock Code:FUNC + 1 + 4 + (6 Digit Security Code) Current Unlock Code Displays) + New 4 Digit Unlock Code + STO + CLR (To Exit)

System Select: FUNC + 1 + 2 + (6 Digit Security Code) + Repeatedly press 2 to scroll choices:

AB
BA
B Only
A Only
Home
Only SID

Press STO to enter selection
Press CLR (To Exit)

OKI 750 PORTABLE

NALM Type: EE PROM
Manufacturer: OKI
Programmer: Keypad
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
Number of Channels: 832

PART I

Programming Sequence: Program Dealer Password First
Press * and # simultaneously then enter *12345678#
Enter 10 digit Dealer Passwsord
Recommend to use 123457890
Press STO to enter password into memory
Unit will request you enter password again
Enter programmed Dealer password

PART 2

Programming the Phone
Power ON
Press MENU and RCL simultaneously then release
Enter Dealer Password (See Part I)
(Password must be entered within 30 seconds of power ON)
Software Version and ESN will Display "Spd Dial Mem Clear" then "To Reset Press 0" will display
Press 0 to Clr Mem Locations (or CLR to pass this step)
"Default Data Set" then "To Reset Press 0" will display
"NAM 1" then "OWN#" will Display
After each Parameter is entered, press STO to enter data then VOL DOWN to increment
Press CLR to exit (This also allows access to NAMs 2-5)
Repeatedly press CLR to exit Program Mode

Step		**# of Digits**	
01	Mobile Number	10	XXX-XXX-XXXX+STO+VOL DWN
02	System ID	5	XXXXXX + STO + VOL DOWN
03	Initial Paging Channel	4	0333 or 0334+STO+VOL DWN
04	Access Overload	2	XX + STO + VOL DOWN
05	Unlock Code	4	XXXX + STO + VOL DOWN
06	Group ID	2	XX + STO + VOL DOWN
07	Station Class	4	1010 (10 in Binary) + STO + VOL DOWN
08	Options (1)	4	11X0 + STO + VOL DOWN
09	Security Code	6	XXXXXX+STO + VOL + DOWN

(1)Step 8 Options:

MIN Opt	Local Use	Handsfree	Not Used
1	1	0(Disable)	0
	or	1(Enable)	

Programming NAMS 2 - 5

Programming Sequence:Press CLR after Programming NAM 1
Enter Mobile Number #2 + STO + VOL DOWN
Enter System ID #2 + STO + VOL DOWN
Enter Initial Paging Channel #2 + STO + VOL DOWN
Press CLR to exit and program NAMS #3 - #5
Press CLR again to exit Program Mode

OKI 810 MOBILE AND 891 TRANSPORTABLE

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Handset
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes
(129 + 0 + Last Seven Digits of Serial #)
Stamped Model Number: UM 9023
Number of Channels: 832
Programming Sequence:

First Time Programming: Power OFF
Power ON
Press and hold RCL and FUNC keys simultaneously once wake up tone has stopped Release depressed keys and enter Password #12345678#
"Enter New PW & STO" will display
Recommended number (*12345678#)
Enter Password + STO
Re-enter Password + STO
Phone automatically steps to Program Mode

Reprogramming A Used Phone: Power OFF
Power ON
Press and hold RCL and FUNC keys simultaneously once wake up tone has stopped
Release depressed keys and enter Password (see Part 1) (Preset to *12345678#)
(Enter password within 30 seconds)
ESN and Serial Number will display
SPD Dial displays - Press 0 to clear or CLR to increment
Default Data displays-Press 0 to clr or CLR to increment
SSN displays (N/A) Press 0 to increment "Phon" appears (Short for Phone #)
Enter data for each step and press STO + VOL UP or DOWN to increment
Once data has been entered, the NAM information can be scrolled with the Vol UP or DOWN key

Press CLR to exit Program Mode

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX
2	System ID	5	XXXXX
3	Initial Paging Channel	4	(0333 or 0334)
4	Access Overload	2	XX
5	Group ID	2	XX
6	Unlock Code	4	XXXX
7	Station Class (4)	4	1000
8	Options (3)	4	1101
9	Security Code	6	XXXXXX

(3)-Options Step 8	MIN Opt	Local Use	Not Used	Horn Alert

0 = Disable
1 = Enable
(4)-Enter Station Class in Binary (1000 binary = 08 decimal)

New Unlock Code:FUNC + 1 + 6 + 6 digit Security Code (NAM) +
New 4 digit Unlock Code + STO

System Select:FUNC + 2 + 6 digit security code + 2 + 2 etc
(to scroll through selections)

SCN	AB
SCN	BA
SCN	A
SCN	B
SCN	Ho (Home)
SID NO.	(enter System ID #)

Press STO to enter selection

OKI 830

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Handset
ESN Prefix: Dec 129 Hex 81
ESN/Ser Num Match:Yes (129 + 00 + Last Six Digits of Serial Number)
Stamped Model Number: UM 9023
Number of Channels: 832

Program Sequence: First Time Programming

Power OFF
Power ON
Press and hold RCL and MENU keys simultaneously once wake up tone has stopped
Release depressed key and enter Password *123345678#
"Enter New PW & STO" will display Recommended number (*12345678#)
Enter Password + STO
Re-enter Password + STO
Phone automatically steps to Program Mode

Reprogramming A Used Phone
Power OFF
Power ON
Press and hold RCL and MENU keys simultaneously once wake up tone has stopped
Release depressed keys and enter Password
(See Part I) (Preset to *12345678#)
(Enter password within 30 seconds)
ESN and Serial Number will display
SSN displays (N/A) Press CLR to increment
SPD Dial displays - Press * to clear or CLR to increment
Default Data diplays - Press * to clear or CLR to increment
Power ON "Message" and "Enter Alpha" will display
- press CLR to exit or enter alpha message to display during power up of phone NAM 1 Program appears (Press VOL DOWN to select NAM 2)
Enter data for each step + STO + VOL DOWN to increment
Once data has been entered, the NAM information can be scrolled with the Vol UP or DOWN key
Press CLR to exit Program Mode

1	Mobile Number	10	XXX-XXX-XXXX
2	System ID	5	XXXXX
3	Initial Paging Channel	4	0333 or 0334
4	Access Overload	2	XX
5	Group ID	2	XX
6	Unlock Code	4	XXXX
7	Station Class (4)	4	1000
8	Options (3)	4	1101

9 Security Code 6 XXXXXX

(3) - Options Step 8

MIN Opt	Local Use	Audio Mute	Horn Alert

0 = Disable
1 = Enable

(4) - Enter Station Class in Binary (1000 binary = 08 decimal)

New Unlock Code:FUNC + 1 + 6 + (6 digit Security Code (NAM)) + New 4 digit Unlock Code + *

System Select:MENU + ^ or (Until Adm. Menu" displays) + RCL+ 6 digit security code + (Until Current Selection Displays) + RCL (To View Choices) + STO + CLR (To Exit)

For Only SID: STO + 5 Digit System Identification + STO + CLR + CLR (To Exit)

OKI 900 PORTABLE

NAM Type: EE PROM
Manufacturer: OKI
Programmer: Keypad
ESN Prefix: Dec 129 Hex 81
ESN/Serial Number Match: Yes (129 + Last 6 digits of Serial Number)
Stamped Code Number: UM 9022
Number of Channels: 832

Programming Sequence: PART I

Program Dealer Password First
Press RCL and MENU keys simultaneously then enter * + 12345678 + #
Enter 10 digit Dealer Password
Use Passsword: 1234567890
Press STO to enter password into memory
Unit will request you enter password again
Enter programmed Dealer Password and press STO

PART 2

Programming the Phone
Power ON
Press MENU and RCL simultaneously then release
Enter Dealer Password (See Part I)
(Password must be entered within 30 seconds of power ON)
Software Version and ESN (In Hex) will Display
"Spd Dial Mem Clear" then "To Reset Press*" will display
Press * to Clear Memory Locations
(or CLR to pass this step)
"Default Data Set" then "To Reset Press *" will display
Press * to rest phone options (or CLR to pass this step)
"Power On" will display for 2 seconds then
"Enter Alpha" shows. Enter 8 letters maximum then STO step to NAM programming
"NAM 1" then "OWN#" will Display
After each Parameter is entered, press STO to enter data then VOL DOWN to increment
Press CLR to exit (This also allows access to NAMS 2-5)
Repeatedly press CLR to exit Program Mode

Step		# of Digits	
01	Mobile Number	10	XXX-XXX-XXXX+STO+VOL DWN
02	System ID	5	XXXXX + STO + VOL DOWN
03	Initial Paging Channel	4	(0333or0334)+STO+VOL DWN
04	Access Overload	2	XX + STO + VOL DOWN
05	Group ID	2	XX + STO + VOL DOWN
06	Unlock Code	4	XXXX + STO + VOL DOWN
07	Station Class	4	1010 (10 in Binary) + STO + VOL DOWN

08	Options (1)	4	11X0 + STO + VOL DOWN
09	Security Code	6	XXXXXX + STO + VOL DOWN

(1) - Step 8 Options:	Min Opt	Local Use	Handsfree	Not Used
	1	1	0(Disable)	0
			or	
			1(Enable)	

Programming NAMS 2 - 5

Programming Sequence:
Press CLR after Programming NAM 1
Enter Mob Number #2 + STO + VOL DOWN
Enter System ID #2 + STO + VOL DOWN
Enter initial paging channel #2+STO+ VOL DOWN
Enter Access Overload #2+STO+VOL DWN
Enter Group ID #2 + STO + VOL DOWN
Press CLR to exit and program NAMS #3 - #5
Repeat above steps to program NSMS #3 - #5
Press CLR again to exit Program Mode

New Unlock Code: MENU + VOL DOWN + VOL DOWN etc. (until "Adm.Menu" displays) + RCL + 6 Digit Sescurity code (NAM) + VOL DOWN + VOL DOWN + VOL DOWN ("Unlock Code Set"and "Current Unlock Code" will display) + Enter New 1-8 Digit Unlock Code + STO + CLR (To Exit)

System Select:MENU + VOL DOWN + VOL DOWN etc. (until "Adm.Menu" displays) + RCL + 6 Digit Security Code (NAM) + VOL DOWN + VOL DOWN (Until Current Status displays) +RCL + RCL + RCL (To scroll choices) + STO + CLR (To Exit)

Pref A (AB)
Pref B (BA)
A Only
B Only
Home
Only SID
Press STO to enter selection
Press CLR to exit

PANASONIC CM/TF 800 (EB-2502/EB2503, EBC20/EBC30)

NAM Type: EE PROM
Manufacturer: PANASONIC
Programmer: Keypad
ESN Prefix: Dec 136 Hex 88
ESN/Serial Number Match: Requires Conversion (See Conversion Instructions)
Stamped Mode Number: EB-2502 or EB-2503
Number of Channels: 832

Programming Sequence: Install fully charged battery
Power ON

Enter Maintenance Mode: * + 0 + # + 0 + * + 0 + # + 0
Enter * + 1 + SND (to program NAM 1) or * + 2 + SND (to program NAM 2)
NAM 1 must be programmed before NAM 2 can be programmed. When programming NAM 2 only use Steps 01-06
The sequence * + 0 + # + 0 + * + 0 + # 0 + 1 must be entered within 10 seconds of power up
Enter parameter information + STO and then the Step Number (i.e., to program System ID, XXXXX + STO + 01)
To recall any information already programmed into phone, press RCL + Step Number
Press STO + * + * to write NAM information
Press END or * + 4 to exit Maintenance Mode

Step		# of Digits	
01	System ID	5	XXXXX
02	Mobile Number	10	XXX-XXX-XXXX
03	Preferred System	1	0(B) or 1(A)
04	Initial Page Channel	3	333 or 334
05	Access Overload	2	XX
06	Group ID	2	XX
07	Digit Dial Limit	2	00 = 32 digits
	01 - 31 can be prog to limit max # of digits dialed		
08	Station Class	2	XX
09	Speed Dial Number (Memory Location 00)	12	XXXXXXXXXXXX
10	Lock Code	2,3 or 4	XX, XXX or XXXX
11	Option Bits (FCN 1) (1)	8	11000000
12	Option Bits(FCN 2) (2)	8	00010100
13	Option Bits(FCN 3) (3)	8	11110111

Step 11:	Local Use	Min Opt	Not Used	Not Used	Not Used	Horn Alert	Radio Mute	Not Used

Step 12:	Not Used	Built-In Monitor	Auto Lock	Full Lock	Not Used	A/B Select(3)	Pref Only(3)	Home Only(3)

Step 13: Call in Absence	DTMF Interval	Not Used	Dial Lock	Not Used	Cumulative Timer
	0=65 ms 1=Continuous				

Resettable Timer	Indiv. Timer

(3) Select only one of the three choices listed

Conversion of EB-2502 and EB-2503 serial number to ESN

(for serial numbers over 1,000,000)

(Last 6 digits of Stamped Serial Number) +
[(7th digit)(262,144)]=ESN without prefix)

Example #1:Serial number on transceiver is 1,234,567
234,567 + [(1)(262,144) = (496,711)
This phone's ESN is 13600496711

Example #2:Serial number on transceiver is 3,234,567
234,567 + [(3)(262,144)] = 1,020,999
This phone's ESN is 13601020999

Display ESN:Install Test Cable (Part #WWG18965BA)
Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + 0 + #
Press * + 3 + SND
Enter 1 + 1 + SND
ESN will display in decimal. Since the display shows 10 digit maximum, first digit of the prefix (136) is hidden.

New Unlock Code:	NAM	
Multiple NAM Select:	F + 8	
System Select:	F + 7 + X	
	X = 1	Standard (AB or BA)
	X = 2	A Only
	X = 3	B Only
	X = 4	Home

PANASONIC EB-500, CM-500, TP-500, EB-T10, EB-C10

NAM Type: EE PROM
Manufacturer: PANASONIC
Programmer: Handset with PANASONIC programming adaptor (WWG1865BA)
ESN Prefix: Dec 136 Hex 88
ESN/Serial Number Match: Yes, requires conversion if serial number is over 1,000,000 - see 3rd page
Handset Programmable: Yes, with program adaptor
Number of Channels: 832
Programming Sequence:Connect programming adaptor to transceiver and 12 volt power supply Connect handset directly to transceiver
Enter the following codes:* + 0 + 0 + 0 + 0 + # (to enter maintenance mode) * + 1 + SND (to program NAM #1) or * + 2 + SND (to program NAM #2)
NAM 1 must be programmed before NAM 2 can be input "In Use" and "No Svc" will illuminate if improper data has been input
Enter individual data then press STO and the correct 2 digit location (i.e. 01, 02 etc)
Press STO + * + * to program NAM
(Press END to exit)

Programming NAM 1

Step		# of Digits	
01	System ID	5	XXXXX
02	Mobile Number	10	XXX-XXX-XXXX
03	Preferred System	1	0 (B) or 1 (A)
04	Initial Paging Channel	3	333 or 334
05	Access Overload	2	XX
06	Group ID	2	XX
07	Dialed Digit Limit (00 for 32, 29 for 29, 28 for 28, etc.)	2	00
08	Station Class	2	08
09	Frequently Dialed Number for Location 00	10	XXX-XXX-XXXX
10	Lock Code	2 to 4	XX, XXX or XXXX
11	Manufacturer Options (1)	8	11000XX0
12	Manufacturer Options (1)	8	0XX101XX
13	Manufacturer Options (1)	8	11010111

Step 11:

Local Use	Min Opt	Not Used	Not Used	Not Used	Horn Alert(2)	Radio Mute(2)	Not Used

Step 12:

Not Used	Built-in Monitor	Auto Lock	Full Lock	Not Used	A/B Select(3)	Pref Only(3)	Home Only(3)

Step 13:

Call in Absence Interval	DTMF Used	Not Lock Used	Dial Time (T#1)	Not Timer (T#2)	Cumulative	Resettable	Indiv Timer
	0=65 ms 1=Continuous						

Programming NAM 2

Step		# of Digits	
01	System ID 2	10	XXX-XXX-XXXX
02	Mobile Number 2	5	XXXXX
03	Preferred System 2	1	0 (B) or 1 (A)
04	Initial Paging Channel	3	333 or 334
05	Access Overload 2	2	XX
06	Group ID 2	2	XX

(2)Select Horn Alert or Radio Mute. Only one can be enabled.
(3)Select only one of the three choices listed

The following two command sequences cause phone to exit maintenance mode.

STO + * + * (To store programmed information)

STO + # + # (No programmed information will be saved)

Conversion of EB-500 serial number to ESN

(for serial numbers 1,000,000 to 1,999,999)

(Stamped Ser Num)-(1,000,000) + (262,144) = (ESN without prefix)

Example: Serial Number on transceiver i 1,234,567 (1,234,567) - (1,000,000) + (262,144) = (496,711)
This phone's ESN is 13600496711

(for serial numbers 2,000,000 to 2,999,999)

(Stamped Serial Number) - (2,000,000) + (524,288) = (ESN without prefix)

(for serial numbers 3,000,000 to 3,999,999)

(Stamped Serial Number) - (3,000,000) + (786,432) = (ESN without prefix)

Display ESN:Insert Program Adaptor
Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + #
Press * + 3 + SND
Enter 1 + 1 + SND
ESN will display in decimal. Since the display shows 10 digits maximum, first digit of the prefix (136) is hidden. Press CHK to see the missing "1".

Horn Alert:F + 4 + 2
New Unlock Code: NAM

System Select: F + 7 + X

X = 1 AB or BA Standard
X = 2 A Only
X = 3 B Only
X = 4 Home

Converion of EB-500 serial number to ESN
(for serial numbers 1,000,000 to 1,999,999

(Stamped Serial Number) - (1,000,000) + (262,144) = (ESN without prefix)

Example: Serial Number on transceiver is 1,234,567
(1,234,567) - (1,000,000) ^G (262,144) = (496,711)
This phone's ESN is 13600496711

(for serial numbers 2,000,000 to 2,999,999)

(Stamped Serial Number) - (2,000,000) + (524,288) = (ESN without prefix)

(for serial numbers 3,000,000 to 3,999,999)

(Stamped Serial Number) - (3,000,000) + (786,432) = (ESN without 'prefix)

Display ESN: Insert Program Adaptor
Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + #
Press * + 3 + SND
Enter 1 + 1 + SND
ESN will display in decimal. Since the display shows 10 digits maximum, first digit of the prefix (136) is hidden. Press CHK to see the missing "1".

Horn Alert: F + 4 + 2
New Unlock Code: NAM
System Select: F + 7 + X

X = 1 AB or BA Standard
X = 2 A Only
X = 3 B Only
X = 4 Home

PANASONIC EB 3500 PORTABLE

NAM Type: EE PROM
Manufacturer: PANASONIC
Programmer: Keypad with PANASONIC adaptor (Part #WWG1036A)
ESN Prefix: Dec 136 Hex 88
ESN/Serial Number Match: Requires Conversion (See Conversion Instructions)
Handset Programmable: Yes, provided programming adaptor is available
Number of Channels: 832
Program Sequence: Install fully charged battery and programming adaptor

Power ON
Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + #
Enter * + 1 + SND (to program NAM 1) or * + 2 + SND (to program NAM 2.) NAM 1 must be programmed before NAM 2 can be programmed.
When programming NAM 2 only use Steps 01- 06.
Enter parameter information + STO and then the Step # (i.e., to program System ID, XXXXX + STO + 01)
To recall any information already programmed into phone, press RCL + Step Number
Press STO + * + * to write NAM information
Press STO + * + 4 to exit Maintenance Mode

Step		# of Digits	
01	System ID	5	XXXXX
02	Mobile Number	10	XXX-XXX-XXXX
03	Preferred System	1	0(B) or 1(A)
04	Initial Page Channel	3	333 or 334
05	Access Overload	2	XX
06	Group ID	2	XX
07	Digital Dial Limit	2	00 = 32 digits.01-31 can be programmed to limit maximum number of digits dialed
08	Station Class	2	XX
09	Speed Dial Number (Memory Location 00)	12	XXXXXXXXXXXX
10	Lock Code	2,3 or 4	XX, XXX or XXXX
11	Option Bits(FCN 1)(1)	8	1101X000
12	Option Bits(FCN 2)(2)	8	OXXXOXXX
13	Option Bits(FCN 3)(3)	8	XXXXO111

Step 11:

Local Use	Min Opt	Not Used	End to End	Ringer Silence	Not Used	Not Used	Not Used

Step 12:

Not Used	Built-in Monitor Svc Only	Auto Lock	Full Lock	Not Used	A/B Select(3)	Pref Only(3)	Home Only(3)

Step 13:

Call in Absence	DTMF Interval	Send Lock	Dial Lock	Not Used	Cumulative Timer	Resettable Timer	Indiv Timer

(3) Select only one of the three choices listed.

Conversion of EB-3500 serial number to ESN
(for serial numbers 1,000,000 to 1,999,999)

(Stamped Serial Number) - (1,000,000) + (262,144) = (ESN without prefix)

Example: Serial number on transceiver is 1,234,567
(1,234,567) - (1,000,000) + (262,144) = (496,711)
This phone's ESN is 13600496711

(for serial numbers 2,000,000 to 2,999,999)

(Stamped Serial Number) - (2,000,000) + (524,288) = (ESN without prefix)

(for serial numbers 3,000,000 to 3,999,999)

(Stamped Srial Number) - (3,000,000) + (786,432) = (ESN without prefix)

Display ESN: Insert Program Adaptor
Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + #
Press * + 3 + SND
Enter 1 + 1 + SND
ESN will display in decimal. Since the display shows 10 digits maximum, first digit of the prefix (136) is hidden. Press CHK to see the missing "1".

New Unlock Code:	NAM	
Multiple NAM Select:	F + 8	
System Select:	F + 7 + X	
	X = 1	Standard (AB or BA)
	X = 2	A Only
	X = 3	B Only
	X = 4	Home

PANASONIC HP600 (EB-3510), EBH-30 (EB-3511) PORTABLES

NAM Type: EE PROM
Manufacturer: PANASONIC
Programmer: Keypad with PANASONIC adaptor (Part #EB-X0754)
(Adaptor required for phones manufactured before March 1991.
ESN Prefix: Dec 136 Hex 88
ESN/Serial Number Match: Requires Conversion (See Conversion Instructions)
Handset Programmable: Yes, provided programming adaptor is available or phone was manufactured after March 1, 1991.
Number of Channels: 832

Determine phone's manufacture date by checking the label on the back of portable. The label shows 3 letters. The first letter is the year (A=91,B=92, etc). The second letter shows the month (A=January, B=February, etc) and the third letter displays the manufacture batch. A phone with label ACX was manufactured in March 1991.

Programming Sequence: Install fully charged battery and programming adaptor if necessary (See Above)

Power ON

(Pre 3/91 Models) Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + #

(Post 3/91 Models) Enter Maintenance Mode: * + 0 # + 0 + * + 0 + # + 0

Lot Code: ABX or greater

Software Ver. SFA 13

Enter * + 1+SND (to program NAM 1) or * + 2+SND (to program NAM 2) NAM 1 must be programmed before NAM 2 can be programmed. When programming NAM 2 only

use steps 01-06

The sequence * + 0 + # + 0 + * + 0 + # + 0 + 1 must be entered within 10 seconds of power up.
Enter parameter informatiron + STO and then the Step # (ie to program System ID, XXXXX + STO + 01)
To recall any information already programmed into the phone, press RCL + Step Number
Press STO + * + * to write NAM Information
Press END or * + 4 to exit Maintenance Mode

Step		# of Digits	
01	System ID	5	XXXXX
02	Mobile Number	10	XXX-XXX-XXXX
03	Preferred System	1	0(B) or 1(A)
04	Initial Page Channel	3	333 or 334
05	Access Overload	2	XX
06	Group ID	2	XX
07	Digit Dial Limit	2	00 = 32 digits

01-31 can be programmed to limit maximum # of digits dialed

08	Station Class	2	XX
09	Speed Dial Number (Memory Location 00)	12	XXXXXXXXXXXX
10	Lock Code	2, 3 or 4	XX, XXX or XXXX
11	Option Bits(FCN 1)(1)	8	11001000
12	Option Bits(FCN 2)(2)	8	00010100
13	Option Bits(FCN 3)(3)	8	11110111

Step 11:

Local Use	Min Opt	Not Used	Not Used	Ringer Silence	Not Used	Not Used	Not Used

Step 12:

Not Used	Built-in Monitor	Auto Lock	Full Lock	Not Used	A/B Select(3)	Pref Only(3)	Home Only(3)

Step 13:

Call-in Absence	DTMF Interval	Send Lock	Dial Lock	Not Used	Cumulative Timer	Resettable Timer	Indiv Timer
	0=65 ms 1=Continuous						

(3) Select only one of the three choices listed

Conversion of EB-3500 serial number to ESN
(for serial numbers 1,000,000 to 1,999,999)

(Stamped Serial Number) - (1,000,000) + (262,144) = (ESN without prefix)

Example: Serial Number on transceiver is 1,234,567
(1,234,567) - (1,000,000) + (262,144) = (496,711)
This phone's ESN is 13600496711

(for serial numbers 2,000,000 to 2,999,999)

(Stamped Serial Number) - (2,000,000) + (524,288) = (ESN without prefix)

(for serial numbers 3,000,000 to 3,999,999)

(Stamped Serial Number) - (3,000,000) + (786,432) = (ESN without prefix)

Display ESN: Insert Program Adaptor (PRE 3/91 Phones Only)

Enter Maintenance Mode: * + 0 + 0 + 0 + 0 + #
or * + 0 + # + 0 + * + 0 + # (if phone was manufactured after 3/91)

Press * + 3 + SND
Enter 1 + 1 + SND
ESN will display in decimal. Since the display shows 10 digits maximum, first digit of the prefix (136) is hidden. Press CHK to see the missing "1".

New Unlock Code:	NAM	
Multiple NAM Select:	F + 8	
System Select:	F + 7 + X	
	X = 1	Standard (AB or BA)
	X = 2	A Only
	X = 3	B Only
	X = 4	Home

PANASONIC 6106, 6110
EB311 AND EB362

NAM Type: EE PROM
Manufacturer: PANASONIC
Programmer: Handset with PANASONIC programming adaptor
ESN Prefix: Dec 136 Hex 88
ESN/Serial Number Match: Yes-6106 No - 6110 (requires conversion) (2)
Handset Programmable: Yes, provided programming adaptor is available
Number of Channels: 666 (6106) or 832 (6110)
Programming Sequence: Connect programming adaptor to transceiver and 12 volt power supply
Power ON
Enter the following passwords:
* + 0 + 0 + 0 + 0 +# (wait for 0)
* + 1 + SND (wait for 1)
5 + 0 + SND (display will Clear)
Enter individuall data then press STO and the correct 2 digit location (ie 01, 02, etc)
Write NAM information with STO + * + *

Steps		# of Digits	
01	System ID	4	XXXX
02	Mobile Number	10	XXX-XXX-XXXX
03	Lock Code	3 or 4	XXX or XXXX
04	Frequently Dialed Number for Location 00	10	XXX-XXX-XXXX
05	Station Class	2	XX
06	Initial Paging Channel	3	XXX
07	Access Overload	2	XX
08	Group ID	2	XX
09	Manufacturer Options(1)	8	11X11100
10	Manufacturer Options(1)	8	00000100
11	Manufacturer Options(1)	8	11000011
12	Dialed Digit Limit 00 for 16, 01 for 15, etc	2	00

(1) See following page for description of manufacturer options
(2) See following page for 6110 serial number to ESN Conversion

Manufacturer Options

Step 9:

Local Use	MIN Opt	0 (B) or 1 (A)	System Sig	EE Opt	Rep Horn	N/A	N/A
1	1	X	1	1	1	0	0

Step 10:

N/A	Built In Monitor	Auto Lock	N/A	N/A	A/B Sel	Pref Sys Only	Home Only
_0	0	0	0	0	1	0	0

Step 11:

Call In Absence	DTMF Interval	N/A	N/A	N/A	N/A	Total Call Timer	Ind Call Timer
1	0=65 ms 1=Continuous	0	0	0	0	1	1

Conversion of 6110 serial number to ESN

To convert serial numbers greater than 1,000,000 use the following formula

(Stamped Serial Number) - (1,000,000) + (262144) = (ESN without prefix)

Example: Serial Number on transceiver is 1,234,567
(1,234,567) - (1,000,000) + (262144) = (496,711)
This phone's ESN is 13600496711

For serial numbers less than 1,000,000 use the manufacturer's prefix and the stamped serial number

Horn Alert: (Car Kit Only): F + 4 + 4

New Unlock Code: NAM

System Select: F + X

X = 7	Home
X = 8	B Only
X = 9	A Only
X = #	BA or AB

PANASONIC 6104EA and 6104 EC

NAM Type:	Tri-State
Manufacturer:	Panasonic
Programmer:	Motorola 1801 - Celnam or Curtis
ESN Prefix DEC:	136
HEX:	88
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled (Enable if equipped)
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00
Horn Alert:	END + # (simultaneously, hold for 2 seconds)
New Unlock Code:	NAM
System Select:	N/A

PANASONIC 6104EB

NAM Type:	Tri-State
Manufacturer:	Panasonic
Programmer:	Motorola 1801 - Celnam or Curtis
ESN Prefix DEC:	136
HEX:	88
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Hex Address	B7 B0
13	0 0 0 1 0 0 0 0
14	0 1 0 0 0 0 1 1

Hex Address 13 - B4 A/B Select

Hex Address 14 - B6 DTMF Interval

B1 Total Call Timer
B0 Individual Call Timer

Horn Alert:	END + # (Simultaneously, hold for 2 seconds)
New Unlock Code:	NAM
System Select:	F + X

X=7 Standard (AB or BA)

X=8 Preferred Only (A only or B only)

X=9 Non-Preferred Only (B only or A only)

PANASONIC 6105EA, 6105EB, and 6105EX
(100, 101, 102, 103, 104 and 105)

NAM Type:	Tri-State
Manufacturer:	Panasonic
Programmer:	Motorola 1801 - Celnam or Curtis
ESN Prefix DEC:	136
HEX:	88
ESN, S/N Match Required:	Yes
Programmable Handset:	No
Available Channels:	666
Phone Number Format:	XXX-XXX-XXXX
Lock Code Format:	XXX
MIN Option:	Enabled
Repertory Option:	Enabled
Handsfree Option:	Disabled
Local Use Option:	Enabled
End-to-End Signalling:	Enabled
Horn Alert Option:	Enabled
System ID Format:	XXXXX
Preferred System:	A or B
Access Overload Class:	XX
Group ID Format:	XX
Initial Paging Channel:	333 or 334
Station Class:	00

Hex Address	B7 B0
13	0 0 0 1 1 0 0 0
14	1 1 0 0 0 0 1 1
15	1 0 0 0 0 0 0 0

Hex Address 13 - B4 A/B System Select
B3 16-digit display

Hex Address 14 - B7 Received Call Indicator
B6 DTMF Interval
B1 Total Call Timer
B0 Individual Call Timer

Hex Address 15 - B7 Last Digit Clear

Horn Alert: END + # (simultaneously, hold for 2 seconds)

New Unlock Code: NAM

System Select: STO + # + X

X=1 Standard (AB or BA)
X=2 Preferred Only (A only or B only)
X=3 Non-preferred only (B only or A only)

PHILIPS FM 9210 TRANSPORTABLE

Requires Curtis or Bytek Programmer with Philips adaptor.

PIONEER PCM 300 and 500

NAM Type:	E^2 PROM
Manufacturer:	Motorola
Programmer:	Keypad
ESN Prefix DEC:	130
HEX:	82
ESN, S/N Match Required:	No
Stamped Model No:	PCM 300
	PCM 500
Available Channels:	832
Program Sequence:	See MOTOROLA Handset Programming - use programming sequence #6
Horn Alert:	N/A
New Unlock Code:	FCN + 0 + 6-digit Security Code + new 3-digit Unlock Code
System Select:	RCL + * + * + * (to scroll choices) + RCL (to store selection)

AB
BA
Home
A only
B only

Press RCL to enter selection

PIONEER PCM 600

NAM Type: E^2 PROM
Manufacturer: Motorola
Programmer: Keypad

ESN Prefix DEC: 130
HEX: 82
ESN, S/N Match Required: No

Stamped Model No: PCM 600

Available Channels: 832

Program Sequence: See MOTOROLA Handset Programming - use Program Sequence #6

New Unlock Code: FCN + 0 + 6-digit Security Code + new 3-digit Unlock Code

System Select: RCL + * + * + * (to scroll choices)
+
STO (to enter selection)

AB
BA
A only
B only
Home

Press STO to enter selection.

PRESTIGE

PRESTIGE PR 100, See AUDIOVOX PT 300

PRESTIGE PRT 200, See AUDIOVOX CTR 1900

PRESTIGE PR 250, See AUDIOVOX MVX 500

PULSAR

See MOTOROLA Handset Programming Instructions.

RADIO SHACK CROSS REFERENCE

Radio Shack, or Tandy, products generally have two model numbers. The first is a stamped model number, and the second is the catalog number. This list will help identify the Radio Shack phones you may encounter:

Stamped Model	**Marketed Model**	
17-1002	17-1002	Transportable
17-1003	CT200	Transportable
17-1005	CT201	Transportable
17-1006	CT1033	Transportable (see NOKIA MOBIRA LX-11)
17-1050	CT301	Portable
17-1051	CT302	Portable (See NOKIA MOBIRA P4000 and PT612 portable)
17-1075	CT101	Mobile
17-1076	CT102	Mobile (See NOKIA MOBIRA LX-11)
17-2001	CT300	Portable
17-3001	CT100	Mobile
17-8003		Canadian Product
TC1000	ENTREPRENUER	(See Radio Shack CT300 and CT301)

RADIO SHACK CT102

See NOKIA MOBIRA LX-11

RADIO SHACK CT1033 TRANSPORTABLE (17-1006)

See RADIO SHACK CT102.

RADIO SHACK 17-1002 TRANSPORTABLE

Requires Curtis Programmer with MOBIRA adaptor or MOBIRA service handset.

RADIO SHACK CT302 PORTABLE (17-1051)

See NOKIA MOBIRA P4000 and PT612 Portable.

RADIO SHACK CT 100 AND CT 101

NAM Type: EE PROM
Manufacturer: NOKIA-MOBIRA
Programmer: Phone Handset or Service Handset
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Handset Programmable: Yes, provided current unlock code is known. Otherwise service handset is necessary
Number of Channels: CT100 - 666 channels
CT101 - 832 channels
Programming Sequence: Power ON
Enter programming mode: *17*3001*XXXX*
where XXXX = 1234 (new phones)
XXXX = Current unlock code
SEL button to increment steps
Once last item is entered then phone is returned to normal operation

Step		# of Digits	
1	System ID	5	XXXXX
2	MIN Opt	1	1
3	Local Use	1	1
4	Phone Number	10	XXX-XXX-XXXX
5	Station Class	2	XX
6	Initial Paging Channel	3	333 or 334
7	Access Overload	2	XX
8	Group ID	2	XX
9	Lock Code	4	XXXX

RADIO SHACK CT300 AND CT301

NAM Type: EE PROM
Manufacturer: NOKIA-MOBIRA
Programmer: Keypad or service adaptor
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Handset Programmable: Yes, provided security code is known, otherwise test adaptor is necessary
Number of Channels: 666 CT300
832 CT301
Programming Sequence: Power ON
Enter access code, * + 17 + * + 2001 + * +
XXXXX + * where XXXXX = 12345 (from factory)
or XXXXX = Current security code
HO-Id should appear in display
Press SEL to enter data and increment
Phone automatically writes NAM information
upon completion of final step

Step		# of Digits	
1	System ID	5	XXXXX + SEL
2	MIN Opt	1	1 + SEL
3	Local Use	1	1 + SEL
4	Mobile Number	10	XXx-XXX-XXXX + SEL
5	Station Class (CT 301	2	10 + SEL Only)
6	Initial Page Channel	3	333 or 334 + SEL
7	Access Overload	2	XX + SEL
8	Group ID	2	XX + SEL
9	Security Code	5	XXXXX + SEL

New Unlock Code: SEL + 7 + 5 digit Security Code
(current Unlock Code will display)
+CLR + New 4 digit Unlock Code + E

System Select: SEL + 1 + 1 + 1
One of the following prompts will display:
A A Only
B B Only
S AB or BA (Standard)
H Home

Press CLR to exit

RADIO SHACK CT 200 (17-1003) TRANSPORTABLE AND CT 201 (17-1005) TRANSPORTABLE

NAM Type: EE PROM
Manufacturer: NOKIA-MOBIRA
Programmer:Handset, Service Handset or CURTIS (with MOBIRA opt)
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Handset Programmable: Yes
Number of Channels: 666
Programming Sequence: Enter Program Mode with the following sequence * + 17 + * + 1003 + * + XXXX + *

XXXX = 1234 (from factory)
XXXX = (Current Security Code)
HO-Id should appear in display
Press SEL to enter data and increment
Phone automatically writes NAM information upon completion of final step

Service Handset Instructions:

If using service handset, enter Local Mode with: 01 + # White noise sounds from handset
Enter Programming Mode with the following sequence: 48 + #
Press each step number, desired parameter then * to enter data
Example: System ID (0 + XXXXX + *)
Once data has been entered, press * to exit Program Mode and return to Local Mode
To exit Local Mode, press 02# or power OFF
ESN can be read in Local Mode by pressing 44#
ESN will display in decimal.Press* to convert ESN to hex

Step		# of Digits	
0	System ID	5	XXXXX
1	MIN Opt	1	1
2	Local Use	1	1
3	Mobile Number	10	XXX-XXX-XXXX
4	Station Class	2	00 (CT200) or 08 (CT201)
5	Initial Page Channel	3	333 or 334
6	Access Overload	2	XX
7	Preferred System	1	0 (B) or 1 (A)
8	Group ID	2	XX
9	Security Code	4	XXXX

Horn Alert: SEL + 2
New Unlock Code: NAM
NAM Reading Seq: Enter Local Mode as listed above with service handset
Press 49# to enter NAM Reading Mode
To read programmed values, enter step number then press*
To exit NAM Reading Mode, press * and phone will return to Local Mode
To exit Local Mode press 02 + # or power OFF
System Select:SEL + 1 + 1 + 1 etc (to scroll choices)
S = Standard (AB or BA)
A = A only
B = B only
H = Home

RADIO SHACK 17-8003
(Sold in Canada)

NAM Type: EE PROM
Manufacturer: NOKIA - MOBIRA
Programmer: Handset
ESN Prefix: Dec 165 Hex A5
ESN/Serial Number Match: Yes
Stamped Model Number: 17-8003
Number of Channels: 832

Programming Sequence: Phone OFF
Phone ON
Power phone ON while holding # and * simultaneously
Hold # and * until indicator lights in top row stay illuminated (ie "Roam" and "No Svc")
Enter Code: 57609891 (Within 5 Seconds)
Enter parameter for each step then press STO to increment
Once all data has been entered, press SEND to program phone and exit Program Mode

Step		# of Digits	
0	System ID	5	XXXXX + STO
1	Local Use	1	1 + STO
2	Access (MIN Opt)	1	1 +STO
3	Mobile Number	10	XXX-XXX-XXXX + STO
4	Initial Paging Channel	4	0333 or 0334
5	Access Overload	2	XX
6	Preferred System	1	0 (B) or 1 (A)
7	Group ID	2	XX
8	Lock Code	4	XXXX

Press SEND to program phone exit

SHINTOM CM-7600

See AUDIOVOX BC-20.

Also marked as the following model numbers:

A1000
CM50
COLT
GT500
LJ750
ST40
XR2000
832XL
4500

SHINTOM 8000 SERIES

NAM Type: EE PROM
Manufacturer: SHINTOM
Programmer: Handset
ESN Prefix: Dec 174 Hex AE
ESN/Serial Number Match: Yes
Handset Programmable: Yes
Number of Channels: 832
Programming Sequence: Power ON
Press FUNC + 5 to lock phone
Enter Program Mode: FUNC + # + 626 + # + FUNC
Model Number and Software Version will display
Press SEND to advance
ESN will display in Hexidecimal
Press SEND to advance
Each time SEND is pressed, another programming parameter is displayed
The parameter may be changed then press SEND to advance
To reach a specific parameter, press END + Address Location + END
NAM information is written with the sequence: END + FUNC + END
The Phone will initialize and be in the Lock Mode.
Enter the programmed Unlock Code

Step		# of Digits	
01	Area Code	3	XXX
02	Phone Number	7	XXX-XXXX
03	System ID	5	XXXXX
04	Access Overload	2	XX
05	Group ID	2	XX
06	Local Use	1	1
07	MIN Opt	1	1
08	Lock Code	3	XXX (Preset 123)
09	Auto Lock	1	0 (Off) or 1 (On)
10	Call Restriction Code	3	XXX (Preset 123)
11	Call Counter Reset Code	2	XX
12	Handsfree	1	0 (Off) or 1 (On)
13	Horn Alert	1	1
14	Horn Alert Auto Shut Off Time	1	0 (2 hours) 1 (4 hours) 2 (8 hours), or 3 (no time limit)
15	Cumulative Call Timer Reset	2	XX (Preset 12)

SONY CM-P11 PORTABLE

NAM Type: EE PROM
Manufacturer:
Programmer: Handset
ESN Prefix: Dec 154 Hex 9A
ESN/Serial Number Match: Yes
Stamped Model Number: CMP11K
Number of Channels: 832

Programming Sequence: Install charged portable battery
Power ON
Enter # + 5118762 (To program NAM 1) or * + 413897 (To program NAM 2)
NAM 1 must be programmed before NAM 2
Once access code is entered, SID will display
Enter parameter then press SEND to increment
Press END to enter data and exit program mode

Step		# of Digits	
1	System ID	5	XXXXX + SEND
2	Mobile Number	7	XXX-XXXX + SEND
3	Unlock Code	4	XXXX + SEND
4	Area Code	3	XXX + SEND
5	Local Use	1	1 + SEND
6	MIN Opt	1	1 + SEND
7	Station Class	2	10 + SEND
8	Initial Paging Channel	3	333 or 334 + SEND
9	Access Overload	2	XX + SEND
10	Preferred System	1	(0=B or 1=A) + SEND
11	Group ID	2	XX + SEND
12	End-to End Signaling	1	1 + SEND
13	Rep Opt	1	1 + SEND
14	Horn Alert	1	0 + SEND
15	Handsfree	1	X + SEND
16	Options (1)	3	XXX

(1)Step 16 Options: Redial = 1
Roam Inhibit = 2

Add assigned numbers to enable function (i.e., to enable both redial and roam inhibit enter 1+2=3). A second example would be to enable redial and disable roam inhibit you would enter 1 (1+0=1)

Display ESN: Power ON

Enter 07386260 (within 10 seconds)
"Selftest No" will display
Enter 10+SEND
Use the following table to convert the number to hexidecimal

Number/Symbol Shown Blank	Hex Equivalent A
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	0
*	B
#	C
-	D
P	E
<-	F

Multiple NAM Select:F + 4 (Simultaneously) (Hold for 2 sec.)

New Unlock Code:NAM

System Select:F + 4 + 4 + 4 etc. (To scroll choices)

Standard (AB or BA)
A Only
B Only
Home

STANDARD

See AT & T 1100 and 1200.

STS

Not field programmable.
Must be returned to factory for programming.

For more information call GATEWAY at (314) 567-8943.

TACTEL

See AUDIOVOX CMT1000.

WALKER PORTABLE

Requires WALKER Programmer, which was manufactured by Bytek, to WALKER's specifications.

TECHNOPHONE PC 105 PORTABLE

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN/Serial Number Match: Yes
Number of Channels: 666
Programming Sequence: Power OFF
Power ON (*Key)
Enter Access Code: # + XXXXXX + # + # + 953739
+ # + UP Key + # + 99 + # + #
(XXXXXX = Security Code 1)
Power OFF (Lock Key)
Power ON (*Key), Phone should show NAM number
provided correct code has been entered
Enter NAM Number (1 to 7) then press *
Press UP Key to increment
Enter data for each step then press UP Key
to step thru NAM
Once Initial Page Channel is entered, display
will show "System Ident"
Enter Alpha designation for city with
number keys. Press key repeatedly to
step thru letters and press # key to store
each letter.
Press UP key, "Save NAM" will display
Press SND to write NAM information + END
to exit Program Mode

Step		# of Digits	
1	System ID	5	XXXXX + UP Key
2	Mobile Number	10	XXX-XXX-XXXX + UP Key
3	Access Overload	2	XX + UP Key
4	Group ID	2	XX + UP Key
5	EX{ (MIN Opt)	1	1 + UP Key
6	Initial Page Channel	3	333 or 334 + UP Key

1 Determining Phone's Security Code
Subtract last six digits of phone's serial number from 999999
Rearrange the six positions of the remaining number with the following formula:

Serial Number: ABCDEF	Security Code: FBDEAC
Position 1(A)	Position 5(A)
Position 2(B)	Position 2(B)
Position 3(C)	Position 6(C)
Position 4(D)	Position 3(D)
Position 5(E)	Position 4(E)
Position 6(F)	Position 1(F)

Example: Stamped Serial Number is 123456

```
    999999
-   123456
    ------
    876543
```

The security code is 375486

New Unlock Code: MENU + 01 + MENU + Six Digit Security Code (See Above Formula) + New 4 digit Unlock Code + CLEAR

System Select: UP ARROW + LITE (Toggles between AB or BA)

TECHNOPHONE PC 115 PORTABLE

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN/Seria Number Match: Yes
Number of Channels: 666
Programming Sequence: Power OFF
Power ON (ON/C Key)
Enter Access Code: # + XXXXXX + # + # + 953739
+ # + MEM Key + # + 99 + MEM Key
(XXXXXXX = Security Code (1))
Power OFF
Power ON (On/C Key) Phone should show NAM
number provided correct code has been
entered
Enter NAM Number (1 to 2) then press *
Press MEM Key to increment
Enter data for each step then press MEM Key
to step thru NAM
Once Initial Page Channel is entered, display
will show "System Ident"
Enter Alpha designation for city with
number keys. Press key repeatedly to
store thru letters and press # key to
store each letter
Press MEM key, "Save NAM" will display
Press SND to write NAM information + END
to exit Program Mode

Step		# of Digits	
1	System ID	5	XXXXX + MEM Key
2	Mobile Number	10	XXX-XXX-XXXX + MEM Key
3	Access Overload	2	XX + MEM Key
4	Group ID	2	XX + MEM Key
5	EXP (MIN Opt)	1	1 + MEM Key
6	Initial Page Channel	3	333 or 334 + MEM Key

(1) Determining Phone's Security Code - See Following Page
Subtract last six digits of phone's serial number from 999999
Rearrange the six positions of the remaining number with the following formula:

Serial Number: ABCDEF	Security Code: FBDEAC
Position 1 (A)	Position 5(A)
Position 2 (B)	Position 2(B)
Position 3 (C)	Position 6(C)
Position 4 (D)	Position 3(D)
Position 5 (E)	Position 4(E)
Position 6 (F)	Position 1(F)

Example: Stamped Serial Number is 123456
999999
\- 123456
876543
The security code is 375486
System Select: # + 1 + 1 + 1 + * (to toggle)

TECHNOPHONE PC 125(M2) PORTABLE

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN / Serial Number Match: Yes
Number of Channels: 666
Programming Sequence: Power OFF
Power ON (*Key)
Enter Access Code: # + XXXXXX + # + # +
953739 + # + UP Key + STORE + 99 + # + #
(XXXXXX = Security Code (1))
Power OFF (LOCK)
Power ON (* Key), Phone will ask which NAM
provided correct code has been entered
Enter NAM Number (0-7) then press *
Press UP Key to increment
Enter dta for each step then press UP Key
to step thru NAM
Once Initial Page Channel is entered, display
will show "System Ident"
Enter Alpha designation for city with number
keys. Press key repeatedly to step thru
letters and press # key to store each letter
Press UP key, "Save NAM" will display
Press CALL to write NAM information + END
to exit Program Mode

Step		# of Digits	
1	System ID	5	XXXXX + UP Key
2	Mobile Number	10	XXX-XXX-XXXX + UP Key
3	Access Overload	2	XX + UP Key
4	Group ID	2	XX + UP Key
5	EXP (MIN Opt)	1	1 + UP Key
6	Initial Page Channel	3	333 or 334 + UP Key

Subtract last six digits of phone's serial number from 999999
Rearrange the six positions of the remaining number with the
following formula:

Serial Number: ABCDEF	Security Code: FBDEAC
Position 1(A)	Position 5(A)
Position 2(B)	Position 2(B)
Position 3(C)	Position 6(C)
Position 4(D)	Position 3(D)
Position 5(E)	Position 4(E)
Position 6(F)	Position 1(F)

Example: Stamped Serial Number is 123456

```
  999999
- 123456
  876543
```

The security code is 375486
New Unlock Code:MENU + 01 + MENU + Six Digit Security Code (See
Above Formula) + New 4 digit Unlock Code + CLEAR

System Select:UP ARROW + SYSTEM + UP ARROW (Repeatedly) + SYSTEM
(to lock)

TECHNOPHONE PC 135 PORTABLE

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN/Serial Number Match: Yes
Number of Channels: 832
Programming Sequence: Power OFF
Power ON (* Key)
Enter Access Code: # + XXXXXX + # + # + 953739 + # + UP Key + STORE + 99 + # + #
(XXXXXX = Security Code (1))
Power OFF (Lock)
Power ON (* Key) Phone will ask which NAM provided correct codehas been entered
Enter NAM Number (0-7) then press *
Press UP Key to increment
Enter data for each step then press UP key to step thru NAM
Once Initial Page Channel is entered, display will show "System Ident"
Enter Alpha designation for city with number keys.
Press key repeatedly to step thru letters and press # key to store each letter.
Press UP Key, "Save NAM" will display
Press SND to write NAM information + END to exit Program Mode

Step		# of Digits	
1	System ID	5	XXXXX + UP Key
2	Mobile Number	10	XXX-XXX-XXX + UP Key
3	Access Overload	2	XX + UP Key
4	Group ID	2	XX + UP Key
5	EXP (MIN Opt)	1	1 + UP Key
6	Initial Page Channel	3	333 or 334 + UP Key

(1)Determining the Phone's Security Code - See Following Page
Subtract last six digits of phone's serial number from 999999
Rearrange the six positions of the remaining number with the following formula:

Serial Number: ABCDEF	Security Code: FBDEAC
Position 1(A)	Position 5(A)
Position 2(B)	Position 2(B)
Position 3(C)	Position 6(C)
Position 4(D)	Position 3(D)
Position 5(E)	Position 4(E)
Position 6(F)	Position 1(F)

Example: Stamped Serial Number is 123456

```
  999999
- 123456
  876543
```

The security code is 375486
New Unlock Code:MENU + 01 + MENU + Six Digit Security Code (See Above Formula) + New 4 digit Unlock Code + CLEAR
System Select:UP ARROW + SYSTEM + UP ARROW (Repeatedly) + SYSTEM (to lock)

TECHNOPHONE PC 205 PORTABLE

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN/Serial Numer Match: Yes
Stamped Model Number: PC 205A
Number of Channels: 832
Programming Sequence: Power OFF
Power ON
Enter Access Code: # + 000000 + # + # + 953739 + # + MEM + 99 + MEM + MEM
Power OFF and ON again
Enter NAM number: F + X; X = 1 to 8
Press "F" Key to increment
Enter data for each step then press "F" Key to step thru NAM
Once programming is complete, press * + F to enter data

Step		# of Digits	
1	System ID	5	XXXXX + F Key
2	Station Class	2	10 + F Key
3	Mobile Area Code	3	XXX + F Key
4	Area Code (Same as Step 3)		XXX + F Key
5	Mobile Number	7	XXX-XXXX + F Key
6	Access Overload	2	XX + F Key
7	MIN Opt	1	1 + F Key
8	Initial Page Channel	3	(333 or 334) + F Key
9	Initial Control Channel (Same as Step 8) + F Key		
10	Alt System Control Channel (Enter the opposite number entered in Steps 8 and 9) (ie if Step 8 was 333 then Step 10 is 334) + F Key		
11	Alphanumerically enter system (3 letter max. ie., Seattle is SEA) Use MEM button to store each digit + F Key		
12	Alphanumerically enter A or B + MEM + F Key		
13	International Code	3	011 + F Key
14	Emergency Number	3	911 + F Key
15	Operator	1	O + F Key
16	Additional NAMS - Enter addit NAM number (1-8) or F Key to review program contents		

Press * + F to enter data
New Unlock Code:F + F + F(Enter Unlock Code - Preset 0000) (Menu C Displays) + F + 3 (Current Unlock Code Displays) + Enter new 4 digit unlock code + END
System Select:F + 3 + F + F + F etc. (To scroll choices) + END (To Exit)
Pref (A Only or B Only)
Non-Pref (B Only or A Only)
Home
Auto (AB or BA)

TECHNOPHONE MC905a, MC905MKII, MC985A AND MC9995

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN/Serial Number Match: No (See Display ESN - Next Page)
Stamped Model Number: 905, 985 and 995 on handset
Number of Channels: 832
Programming Sequence: Power ON
Phone should display "Which NAM", if not perform the following sequence:

Press CLR three times (rapidly)
Enter #+000000+#+#+952729+#+STO+99 +STO+STO
Power Phone OFF then ON again
Phone should display "Which NAM"
Enter NAM number 1 through 8 + STO
Enter each of the following parameters then press * to store each parameter
Press SEND to program phone or END (to exit without changing existing programming information)

Step		# of Digits	
1	System ID	5	XXXXX + *
2	Mobile Number	10	XXX-XXX-XXXX + *
3	Access Overload	2	XX + *
4	Group ID	2	XX + *
5	MIN Opt(EXp)	1	1 + *
6	Initial Page Channel	3	333(A) or 334(B+)*
7	System ID-Alpha Notation	3	Enter Alpha Info For System ID (ie NYC would be entered with 6+6+6+#+9+9+9+#+2+2+2+#)+*

Press SEND to Store Information

Display ESN: MU + 0 + 1
Horn Alert: Turn Ignition Off+MU+07+MU(To Toggle ON or OFF) (Press CLR to exit)
New Unlock Code: MU + 17 + old 4 digit unlock code (Preset 0000) + new 4 digit unlock code + MU (Press CLR to exit)
System Select: MU + 21 + MU +(To toggle) (Toggles between AB and BA) + CLR (To exit)

TECHNOPHONE MC915A

NAM Type: EE PROM
Manufacturer: TECHNOPHONE
Programmer: Keypad
ESN Prefix: Dec 162 Hex A2
ESN/Serial Number Match: Yes
Number of Channels: 832
Programming Sequence: Power ON
Phone should display "Which NAM", if not perform following sequence:
Press CLR three time (rapidly)
Enter # + 000000 + # + # + 953739 + # + STO + 29 + STO + STO
Power Phone OFF and ON again
Phone shuld display "Which NAM"
Enter NAM number 1 or 2 + STO
Enter each of the following parameters, then press * to store each parameter
Press SEND to program phone or END (to exit without changing existing programming information)

Step		# of Digits	
1	System ID	5	XXXXX + *
2	Mobile Number	10	XXX-XXX-XXXX + *
3	Access Overload	2	XX + *
4	Group ID	2	XX + *
5	MIN Opt (EXp)	1	1 + *
6	Initial Page Channel	3	333(A) or 334(B) + *
7	System ID- Alpha Notation	3	Enter Alpha Info for System ID (ie NYC would be entered with 6+6+6+#+9+9+9+ #+2+2+2+#)+*

Press SEND to Store Information

Horn Alert: MU + 05 + MU (To toggle ON or OFF) (Press CLR to exit)

New Unlock Code: MU + 08 + old 4 digit unlock code (Preset 0000) + new 4 digit unlock code + MU (Press CLR to exit)

System Select: MU + 11 + MU (To Toggle) (Toggles between AB and BA)

UNIDEN CP-900, 1000, 1050, 1100, 1200, 1500, 1900, 2000, 3000, PRESIDENT 4000 GTS AND 4500 GTS

NAM Type: EE PROM
Manufacturer: UNIDEN
Programmer: Service Handset or Programmer Handset
ESN Prefix: Dec 172 Hex AC
ESN/Serial Number Match: Yes
Handset Programmable: Service Handset or Programmer Handset
Number of Channels: 666 - 900, 1000
832 - 1050, 1100, 1200, 1500, 1900, 2000, 2500
3000. PRESIDENT 4000 GTS and 4500 GTS

Programming Sequence: Connect antenna or load
Power OFF
Disconnect standard handset
Connect blue or white service handset

White Handset(CP-010):Turn power switch ON while holding * and # Continue holding * and # for two seconds

Blue Handset(CP-210):Turn Power switch ON
Press SELECT + 2 + SEND
Both Handsets:Enter step number, then data for individual parameter
Press STO to enter data for each step (ie to enter System ID, press 0 + XXXXX + STO)
Increment by pressing next step number
To review parameters press: RCL + step number + STO (to exit)
If phone has dual NAM(ie 1050, 1500 & 2000),
Press 9 + 5 + SEND (To toggle between NAMS)
Press SEND to write NAM information
PASS will appear in display if data is valid

Step		# of Digits	
0	System ID	5	XXXXX + STO
1	Local Use	2	(0 or 1) + STO
2	MIN Opt	1	(0 or 1) + STO
3	Mobile Number	10	XXX-XXX-XXXX + STO
4	Initial Page Channel	3	(333 or 334) + STO
5	Access Overload	2	XX + STO
6	Preferred System	1	[0 (B) or 1 (A)] + STO
7	Group ID	2	XX + STO
8	Lock Code (1)	4	XXXX + STO
9	Options		
	F5 DTMF Duration	2	0-100 ms or 1-Continuous

Press STO to increment to F6 or A

All Models Except 1500, 1900 and 4500 GTS

F6 Automatic Power Off (for horn alert)	1	0=3 hrs OR 1=6 hrs

1500, 1900 and 4500 GTS

A Handset/Handsfree 1
0(phone auto transfers from Switching H/S to H/F) OR
1(call ends when H/S is placed in cradle unless user presses RCL + 6 + 6)

Press STO after entering F6 or A data
Press SEND to exit program mode

Horn Alert:	RCL + 9 + 9 + Turn Ignition Off
Multiple NAM Select:1050	1 + STO + 6 + 3 (NAM 1)
2000	2 + STO + 6 + 3 (NAM 2)
2500	
1500	1 + STO + 3 + 3 (NAM 1)
1900	2 + STO + 3 + 3 (NAM 2)
4500GTS	
3000	RCL + 8 + 0 (To toggle between NAMS)
New Unlock Code:	NAM
System Select:	X + STO + 8 + 8
	X = 1 A Only
	X = 2 B Only
	X = 3 Home
	X = 4 Standard AB or BA
	X = 5 Inverted BA or AB

UNIDEN 5000 AND 6000 GTS PORTABLES

NAM Type: EE PROM
Manufacturer: UNIDEN
Programmer: Program or Service Handset with CP 505 Adaptor
ESN Prefix: Dec 172 Hex AC
ESN/Serial Number Match: Yes
Stamped Model Number: 5000 or 6000GTS
Number of Channels: 832

Programming Sequence: Power OFF
Remove Battery and install CP505 or CP505A adaptor
Connect CP505(A) to power supply or to CP 504 battery eliminator per adaptor instructions
Connect Program Handset to CP 505(A) adaptor

White Handset(CP-010):Turn pwr switch ON while holding * and #
Continue holding * and # for two seconds

Blue Handset(CP-210): Turn power switch ON
Press SELECT + 2 + SEND

Both Handsets: Enter step number, then data for individual parameter
Press STO to enter data for each step (i.e. to enter System ID, press 0 + XXXXX + STO)
Increment by pressing next step number
To review parameters press: RCL + Step Number + STO (to exit)_
To select alternate NAM, Press 1 + STO + 90 (NAM 1) or 2 + STO + 90 (NAM 2)
Press SEND to write NAM information
PASS will appear in display if data is valid

Step		# of Digits	
0	System ID	5	XXXXX + STO
1	Local Use	1	(0 or 1) + STO
2	MIN Opt	1	(0 or 1) + STO
3	Mobile Number	10	XXX-XXX-XXXX + STO
4	Initial Page Channel	3	(333 or 334) + STO
5	Access Overload	2	XX + STO
6	Preferred System	1	{0 (B) or 1 (A)] + STO
7	Group ID	2	XX + STO
8	Lock Cod (1)	4	XXXX + STO
9	Options		
	F5 DTMF Duration	1	0 - Continuous or 1 - 100 ms
9A	Not applicable		

Press STO to program phone

Multiple NAM Select: 1 + STO + 99 (NAM 1)
2 + STO + 99 (NAM 2)

New Unlock Code:RCL + 70 + Current 4 Digit Unlock Code +
New 4 Digit Unlock Code

System Select: X + STO + 8 + 8
X = 1 A Only
X = 2 B Only
X = 3 Home
X = 4 Standard AB or BA
X = 5 Inverted BA or AB

UNIDEN CP-5500 PORTABLE

NAM Type: EE PROM
Manufacturer: UNIDEN
Programmer: Keypad
ESN Prefix: Dec 172 Hex AC
ESN/Serial Number Match: Yes
Stamped Model Number: CP-5500
Number of Channels: 832

Programming Sequence: Install fully charged battery
Power ON
Select NAM
NAM 1: 1 + STO + 9 + 0
NAM 2: 2 + STO + 9 + 0
Power OFF
Press PWR key while holding * and #
Continue holding * and # for four seconds
"Roam.No Svc.In Use& M" lights will display
Release * and # keys
Enter sequence 32218591 (within 7 seconds)
SID will display
Enter step number, then data for individual parameter
Press STO to enter data for each step
(ie to enter System ID, press 0+XXXXX+STO)
Increment by pressing next step number
To review parameters press: RCL + step number + STO (to exit)
Press SEND to write NAM information
PASS will appear in display if data is valid
Press END to exit program mode

Step		# of Digits	
0	System ID	5	XXXXX + STO
1	Local Use	1	(0 or 1) + STO
2	MIN Opt	1	(0 or 1) + STO
3	Mobile Number	10	XXX-XXX-XXXX + STO (Note 1)
4	Initial Page Channel	3	[333 or 334] + STO
5	Access Overload	2	XX + STO
6	Preferred System	1	[9 (B) or 1 (A)] + STO

Note 1: Step Number will not display when entering mobile number

7	Group ID	2	XX + STO
8	Lock Code	4	XXXX + STO
9	DTMF Duration	1	0 - 100 ms or 1 - Continuous

Press STO after entering Step 9
Press SEND to write data
Press END to exit program mode

Multiple NAM Select:

NAM 1:	1 + STO + 99
NAM 2:	2 + STO + 99

New Unlock Code:

Program Code:
RCL + 7 + 0 + Current 4-Digit
Program Lock Code (Preset 0000)
+ New 4-Digit Program Code + STO + End

Unlock Code:

RCL + 7 + 0 + 4-Digit Program
Lock Code (Preset 0000) + SEND +
New 4-Digit Unlock Code (Preset
0123) + STO + END

System Select:

X + STO + 8 + 8	
X = 1	A Only
X = 2	B Only
X = 3	Home
X = 4	Standard AB or BA
X = 5	Inverted BA or AB
X = 6	System ID *

*To set System ID: CLR + 5 Digit System ID + STO + 7 + 2

To view current System Select Setting: RCL + 8 + 8

USA CORP PORTABLE

NAM Type: EE PROM
Manufacturer: MITSUBISHI
Programmer: Keypad
ESN Prefix: Dec 134 Hex 86
ESN/Serial Number Match: No
Handset Programmable: Yes
Number of Channels: 666
Programming Sequence:Power ON (End/FCN and 0 for one second)
While holding CLR, enter 4472866 or 4476822
or 6926232
Enter data then press SEND to increment
Press END/FCN to write NAM information

Step		# of Digits	
1	Mobile Number	10	XXX-XXX-XXXX
2	Unlock Code	3	XXX
3	System ID	5	XXXXX
4	Local Use	1	1
5	MIN Opt	1	1
6	Initial Page Channel	3	333 or 334
7	Access Overload	2	XX
8	Preferred System	1	0 (B) or 1 (A)
9	Group ID	2	XX
10	End-to-End Signaling	1	1
11	Booster Opt	1	0 or 1
12	Autonomous Reg	1	0 or 1

WALKER 910

NAM Type: Tri-State
Manufacturer: WALKER
Programmer: MOTOROLA 1801-CELNAM or CURTIS
ESN Prefix: Dec 152 Hex 98
ESN/Serial Number Match: Yes
Handset Programmable: No
Number of Channels: 666
Phone Number: XXX-XXX-XXXX
Lock Code: XXX
MIN Opt: Enabled
Repertory Opt: Enabled
Handsfree: Disabled (Enable if Equipped)
Local Use: Enabled
End-to-End Signaling: Enabled
Horn Alert: Enabled
System ID: XXXXX
Preferred Systefm: A or B
Access Overload: XX
Group ID: XX
Initial Paging Channel: 333 or 334
Station Class: 00

Hex Address	B7 B0
13	1 0 0 0 0 0 0 1

Hex Address 13
B0 Total Call Timer
B2 Preferred Only (provided phone has 3, 4 version or new software)
B7 Individual Call Timer

Horn Alert: (ALT)
New Unlock Code: NAM
System Select: Switch on side of cradle (BA or AB)

United States

ALABAMA		
	All locations	205
ALASKA		
	All locations	907
ARIZONA		
	All locations	602
ARKANSAS		
	All locations	501
CALIFORNIA		
	Anaheim	714
	Bakersfield	805
	Burbank	818
	Eureka	707
	Fresno	209
	Los Angeles	213
	Modesto	209
	Oakland	415
	Orange	714
	Oxnard	805
	Pasadena	818
	Redding	916
	Riverside	714
	Sacramento	916
	Salinas	408
	San Diego	619
	San Fernando	818
	San Francisco	415
	San Jose	408
	Santa Barbara	805
	Santa Monica	213
	Stockton	209
COLORADO		
	Aspen	303
	Boulder	303
	Colorado Springs	719
	Denver	303
	Fort Collins	303
	Grand Junction	303
	Leadville	719
	Pueblo	719
	Steamboat Springs	303
CONNECTICUT		
	All locations	203
DELAWARE		
	All locations	302
DISTRICT OF COLUMBIA		
	Washington	202
FLORIDA		
	Apalachicola	904
	Atlantic Beach	904
	Avon Park	813
	Bowling Green	813
	Cape Canaveral	305
	Cape Kennedy	305
	Cocoa Beach	407
	Coral Gables	305
	Daytona Beach	904
	DeLand	904

	Edgewater	904
	Everglades	813
	Fort Lauderdale	305
	Fort Myers	813
	Fort Pierce	407
	Gulf Port	813
	Hialeah	305
	Hollywood	305
	Inverness	904
	Jacksonville	904
	Key Largo	305
	Key West	305
	Melbourne	407
	Miami	305
	Miami Beach	305
	Orlando	407
	Palm Beach	305
	Pensacola	904
	St. Augustine	904
	St. Cloud	305
	St. Petersburg	813
	Sarasota	813
	South Miami	305
	Tallahassee	904
	Tampa	813
	West Palm Beach	407
	Winter Haven	813
GEORGIA		
	Athens	404
	Atlanta	404
	Augusta	404
	Columbus	404
	Decatur	404
	LaGrange	404
	Macon	912
	Norcross	404
	Rome	404
	Savannah	912
	Stockbridge	404
	Valdosta	912
	Waycross	912
HAWAII		
	All locations	808
IDAHO		
	All locations	208
ILLINOIS		
	Alton	618
	Arlington Heights	708
	Aurora	708
	Bloomington	309
	Broadview	708
	Calumet City	708
	Casey	217
	Champaign	217
	Chicago	312
	Chillicothe	309
	Columbia	618
	Danville	217
	Decatur	217
	DesPlaines	708
	East St. Louis	618
	Elgin	708
	Elmwood Park	708
	Evanston	708
	Glen Carbon	618
	Harrisburg	618
	Havana	309
	Highland Park	708
	Joliet	815

	LaGrange	708
	Lake Forest	708
	Lansing	708
	LaSalle	815
	Madison	618
	Morris	815
	Mt. Vernon	618
	North Chicago	708
	Oak Park	708
	Park Forest	708
	Park Ridge	708
	Peoria	309
	Plainfield	815
	Quincy	217
	Rockfalls	815
	Rock Island	309
	Rockford	815
	Schaumburg	708
	Seneca	815
	Springfield	217
	Sterling	815
	Waukegan	708
	Winnetka	708
INDIANA		
	Evansville	812
	Fort Wayne	219
	Gary	219
	Hammond	219
	Indianapolis	317
	Kokomo	317
	Michigan City	219
	South Bend	219
	Warsaw	219
IOWA		
	Cedar Rapids	319
	Council Bluffs	712
	DesMoines	515
	Dubuque	319
	Mason City	515
	Sioux City	712
KANSAS		
	Abilene	913
	Arkansas City	316
	Atchison	913
	Augusta	316
	Bloomington	913
	Chanute	316
	Coffeyville	316
	Dodge City	316
	El Dorado	316
	Garden City	316
	Hutchinson	316
	Kansas City	913
	Lawrence	913
	Leavenworth	913
	Manhattan	913
	Ottawa	913
	Salina	913
	Topeka	913
	Wichita	316
KENTUCKY		
	Ashland	606
	Covington	606
	Lexington	606
	Louisville	502
	Paducah	502
	Shelbyville	502
	Winchester	606

LOUISIANA		
	Baton Rouge	504
	Lake Charles	318
	New Orleans	504
	Shreveport	318
	Springfield	504
MAINE		
	All locations	207
MARYLAND		
	All locations	301
MASSACHUSETTS		
	Arlington	617
	Boston	617
	Brockton	508
	Brookline	617
	Cambridge	617
	Chicopee	413
	Concord	508
	Dorchester	617
	Dover	508
	East Boston	617
	Fall River	508
	Falmouth	508
	Framingham	508
	Holyoke	413
	Hyannis	508
	Hyde Park	617
	Ipswich	508
	Jamaica Plain	617
	Lawrence	508
	Lexington	617
	Lowell	508
	Milford	508
	Milton	617
	New Bedford	508
	Newton	617
	Northhampton	413
	Peabody	508
	Plymouth	508
	Quincy	617
	Randolph	617
	Reading	617
	Rockland	508
	Salem	508
	Southwick	413
	Springfield	413
	Stoneham	617
	Stoughton	617
	Tauton	508
	Wakefield	617
	Waltham	617
	Warren	413
	Wellesley	617
	Westfield	413
	Westminster	508
	Whitman	617
	Wilmington	508
	Winchester	617
	Worcester	508
MICHIGAN		
	Ann Arbor	313
	Battle Creek	616
	Bay City	517
	Benton Harbor	616
	Cheboygan	616
	Dearborn	313
	Detroit	313
	East Lansing	517
	Flint	313

	Grand Rapids	616
	Jackson	517
	Kalamazoo	616
	Lansing	517
	Lincoln Park	313
	Marquette	906
	Milford	313
	Monroe	313
	Muskegon	616
	New Haven	313
	Oak Park	313
	Saginaw	517
MINNESOTA		
	Austin	507
	Duluth	218
	Lake Minnetonka	612
	Minneapolis	612
	New Prague	612
	Northfield	507
	Plainview	507
	Proctor	218
	Red Wing	612
	Rochester	507
	St. Cloud	612
	St. Louis Park	612
	St. Paul	612
	Sauk Rapids	612
	Warren	218
MISSISSIPPI		
	All locations	601
MISSOURI		
	Bolivar	417
	Branson	417
	Chillicothe	816
	Columbia	314
	Fort Leonard Wood	314
	Grandview	816
	Independence	816
	Joplin	417
	Kansas City	816
	Oran	314
	Poplar Bluff	314
	St. Joseph	816
	St. Louis	314
	Springfield	417
	University City	314
MONTANA		
	All locations	406
NEBRASKA		
	Grand Island	308
	Hastings	402
	Lincoln	402
	North Platte	308
	Omaha	402
	Sidney	308
NEVADA		
	All locations	702
NEW HAMPSHIRE		
	All locations	603
NEW JERSEY		
	Allentown	609
	Asbury Park	201
	Atlantic City	609
	Bayonne	201

	Caldwell	201
	Camden	609
	Delaware	201
	Dover	201
	East Orange	201
	Englewood	201
	Garfield	201
	Glen Ridge	201
	Hanover	201
	Hoboken	201
	Jersey City	201
	Kenilworth	201
	Lakewood	201
	Linwood	609
	Long Branch	201
	Lyndhurst	201
	Medford	609
	Middletown	201
	Montclair	201
	Mount Holly	609
	Newark	201
	New Brunswick	201
	Northfield	609
	Oakhurst	201
	Orange	201
	Paterson	201
	Perth Amboy	201
	Plainfield	201
	Princeton	609
	Ridgewood	201
	Salem	609
	Springfield	201
	Trenton	609
	Union	201
	Vineland	609
	Wayne	201
	Westfield	201
	West New York	201
	Wharton	201
	Wyckoff	201
NEW MEXICO		
	All locations	505
NEW YORK		
	Albany	518
	Allegany	716
	Amsterdam	518
	Apalachin	607
	Babylon	516
	Bronx	212
	Brooklyn	718
	Buffalo	716
	Carthage	315
	Corning	607
	Elmira	607
	Far Rockaway	718
	Flanders	516
	Flushing	718
	Fulton	315
	Garden City	516
	Goshen	914
	Great Neck	516
	Grand Island	716
	Greenwich	518
	Hudson	518
	Hyde Park	914
	Ithaca	607
	Kennedy Int'l Airport	718
	Kingston	914
	Lackawanna	716
	La Guardia Airport	718
	Lake George	518

	Lake Success	516
	Levittown	516
	Long Beach	516
	Manhattan	212
	Mount Vernon	914
	New Rochelle	914
	New York City	212
	Niagara Falls	716
	Ossining	914
	Oswego	315
	Pelham	914
	Potsdam	315
	Poughkeepsie	914
	Queens	718
	Rochester	716
	Rockville Centre	516
	Roosevelt	516
	Rye	914
	Scarsdale	914
	Schenectady	518
	Staten Island	718
	Syracuse	315
	Ticonderoga	518
	Troy	518
	Utica	315
	West Point	914
	White Plains	914
	Yonkers	914
NORTH CAROLINA		
	Asheboro	919
	Asheville	704
	Burlington	919
	Carthage	919
	Charlotte	704
	Durham	919
	Fayetteville	919
	Goldsboro	919
	Greensboro	919
	Greenville	919
	Havelock	919
	Kannapolis	704
	Newton	704
	Raleigh	919
	Rocky Mount	919
	Sparta	919
	Valdese	704
	Wendell	919
	Wilson	919
	Winston-Salem	919
NORTH DAKOTA		
	All Locations	701
OHIO		
	Akron	216
	Amherst	216
	Ashtabula	216
	Brunswick	216
	Camden	513
	Canton	216
	Cincinatti	513
	Cleveland	216
	Columbus	614
	Dayton	513
	East Cleveland	216
	Euclid	216
	Garfield Heights	216
	Germantown	513
	Hamilton	513
	Hudson	216
	Lakewood	216
	Lancaster	614

	Mansfield	419
	Marion	614
	Massillon	216
	McArthur	614
	Middletown	216
	Newtown	513
	Niles	216
	Plymouth	419
	Reading	419
	Salem	216
	Sandusky	419
	Solon	216
	South Euclid	216
	Springfield	513
	Steubenville	614
	Toledo	419
	Warren	216
	Youngstown	216
	Zanesville	614
OKLAHOMA		
	Ardmore	405
	Bartlesville	918
	Bethany	405
	Claremore	918
	El Reno	405
	Guthrie	405
	Muskogee	918
	Norman	405
	Oklahoma City	405
	Shawnee	405
	Stillwater	405
	Tulsa	918
	Wynona	918
OREGON		
	All locations	503
PENNSYLVANIA		
	Allegheny	412
	Allentown	215
	Altoona	814
	Bellevue	412
	Bethlehem	215
	Bristol	215
	Brook Haven	215
	Chester	215
	Clarion	814
	Duquesne	412
	Easton	215
	Erie	814
	Germantown	215
	Gettysburg	717
	Harrisburg	717
	Hershey	717
	Lancaster	717
	Lebanon	717
	Levittown	215
	McKeesport	412
	Media	215
	Milton	717
	Penn Hills	412
	Philadelphia	215
	Pittsburgh	412
	Pottstown	215
	Reading	215
	St. Marys	814
	Scranton	717
	Sharon	412
	Strasburg	717
	Wilkes-Barre	717
	York	717

PUERTO RICO		
	All locations	809
RHODE ISLAND		
	All locations	401
SOUTH CAROLINA		
	All locations	803
SOUTH DAKOTA		
	All locations	605
TENNESSEE		
	Athens	615
	Bethesda	615
	Carthage	615
	Chattanooga	615
	Covington	901
	Gainesville	901
	Jackson	901
	Johnson City	615
	Knoxville	615
	Madison	615
	Memphis	901
	Nashville	615
	Oak Ridge	615
TEXAS		
	Abilene	915
	Alamo	512
	Amarillo	806
	Arlington	817
	Austin	512
	Beaumont	409
	Bonham	903
	Bowie	817
	Brownsville	512
	Carthage	903
	Corpus Christi	512
	Crockett	713
	Dallas	214
	Denison	903
	Denton	817
	Eldorado	915
	El Paso	915
	Fort Bliss	915
	Fort Worth	817
	Galveston	409
	Grand Prairie	214
	Granger	512
	Hereford	806
	Houston	713
	Killeen	817
	Kingsville	512
	Kyle	512
	Laredo	512
	Liberty	409
	Longview	903
	Lubbock	806
	McAllen	512
	Mesquite	214
	Mineola	903
	Nixon	512
	Odessa	915
	Pecos	915
	Plainview	806
	Port Arthur	409
	Ranger	817
	Rio Hondo	512
	San Antonio	512
	Sanger	817
	Sulphur Springs	903
	Sweetwater	915

	Temple	817
	Texarkana	903
	Texas City	409
	Tyler	903
	Waco	817
	Wichita Falls	817
UTAH		
	All locations	801
VERMONT		
	All locations	802
VIRGINIA		
	Charlottesville	804
	Fredericksburg	703
	Harrisonburg	703
	Lynchburg	804
	Newport News	804
	Norfolk	804
	Richmond	804
	Roanoke	703
	Winchester	703
VIRGIN ISLANDS		
	All locations	809
WASHINGTON		
	Bellevue	206
	Pullman	509
	Everett	206
	Mercer Island	206
	Seattle	206
	Spokane	509
	Tacoma	206
	Vancouver	206
	Walla Walla	509
	Yakima	509
WEST VIRGINIA		
	All locations	304
WISCONSIN		
	Appleton	414
	Beloit	608
	Eau Claire	715
	Green Bay	414
	La Crosse	608
	Madison	608
	Milwaukee	414
	Racine	414
	Wausau	715
WYOMING		
	All locations	307

Canada

ALBERTA		
	All locations	403
BRITISH COLUMBIA		
	All locations	604
MANITOBA		
	All locations	204
NEW BRUNSWICK		
	All locations	506
NEWFOUNDLAND		
	All locations	709

N.W. TERRITORIES		
	All locations	403
NOVA SCOTIA		
	All locations	403
ONTARIO		
	Barrie	705
	Belleville	613
	Bracebridge	705
	Brantford	519
	Chatham	519
	Cobourg	416
	Collingwood	705
	Cornwall	613
	Hamilton	416
	Klingston	613
	Kitchener	519
	London	519
	Midland	705
	Newmarket	416
	Niagara Falls	416
	North Bay	705
	Orangeville	519
	Orillia	705
	Oshawa	416
	Ottawa	613
	Peterborough	705
	St. Catherines	416
	Sarnia	519
	Simcoe	519
	Sudbury	705
	Toronto	416
	Welland	416
	Windsor	519
	Woodstock	519
PRINCE EDWARD ISLAND		
	All locations	902
QUEBEC		
	Alma	418
	Baie-Comeau	418
	Chicoutimi	418
	Drummondville	819
	Granby	514
	Montreal	514
	Noranda	819
	Quebec City	418
	Riviere-du-Loup	418
	Rouyn	819
	Sherbrooke	819
	St. Hyacinthe	514
	St. Jean-sur-Richel	514
	St. Jerome	514
	Thetford Mines	418
	Trois Rivieres	819
	Val-d'or	819
	Valleyfield	514
SASKATCHEWAN		
	All locations	306
YUKON TERRITORY		
	All locations	403

Numerical Order

201	New Jersey
202	District of Columbia
203	Connecticut
204	Manitoba

205	Alabama
206	Washington
207	Maine
208	Idaho
209	California
212	New York
213	California
214	Texas
215	Pennsylvania
216	Ohio
217	Illinois
218	Minnesota
219	Indiana
301	Maryland
302	Delaware
303	Colorado
304	West Virginia
305	Florida
306	Saskatchewan
307	Wyoming
308	Nebraska
309	Illinois
312	Illinois
313	Michigan
314	Missouri
315	New York
316	Kansas
317	Indiana
318	Louisiana
319	Iowa
401	Rhode Island
402	Nebraska
403	Alberta, N.W. Territories, Yukon
404	Georgia
405	Oklahoma
406	Montana
407	Florida
408	California
409	Texas
412	Pennsylvania
413	Massachusetts
414	Wisconsin
415	California
416	Ontario
417	Missouri
418	Quebec
419	Ohio
501	Arkansas
502	Kentucky
503	Oregon
504	Louisiana
505	New Mexico
506	New Brunswick
507	Minnesota
508	Massachusetts
509	Washington
512	Texas
513	Ohio
514	Quebec
515	Iowa
516	New York
517	Michigan
518	New York
519	Ontario
601	Mississippi
602	Arizona
603	New Hampshire
604	British Columbia
605	South Dakota
606	Kentucky
607	New York
608	Wisconsin
609	New Jersey

612	Minnesota
613	Ontario
614	Ohio
615	Tennessee
616	Michigan
617	Massachusetts
618	Illinois
619	California
701	North Dakota
702	Nevada
703	Virginia
704	North Carolina
705	Ontario
706	Mexico
707	California
708	Illinois
709	Newfoundland
712	Iowa
713	Texas
714	California
715	Wisconsin
716	New York
717	Pennsylvania
718	New York
719	Colorado
801	Utah
802	Vermont
803	South Carolina
804	Virginia
805	California
806	Texas
807	Ontario
808	Hawaii
809	Caribbean Islands
812	Indiana
813	Florida
814	Pennsylvania
815	Illinois
816	Missouri
817	Texas
818	California
819	Quebec
901	Tennessee
902	Nova Scotia, Prince Edward Island
903	Texas
904	Florida
905	Mexico
906	Michigan
907	Alaska
908	New Jersey
912	Georgia
913	Kansas
914	New York
915	Texas
916	California
918	Oklahoma
919	North Carolina

CELLULAR CHANNEL FREQUENCY ALLOCATION

Cellular Telephone Band A

** Channel 1 is reserved for data **

Cell 1

Channel	Transmit	Receive
1 (333)	879.990	834.990
2 (312)	879.360	834.360
3 (291)	878.730	833.730
4 (270)	878.100	833.100
5 (249)	877.470	832.470
6 (228)	876.840	831.840
7 (207)	876.210	831.210
8 (186)	875.580	830.580
9 (165)	874.950	829.950
10(144)	874.320	829.320
11(123)	873.690	828.690
12(102)	873.060	828.060
13 (81)	872.430	827.430
14 (60)	871.800	826.800
15 (39)	871.170	826.170
16 (18)	870.540	825.540

Cell 2

Channel	Transmit	Receive
1 (332)	879.960	834.960
2 (311)	879.330	834.330
3 (290)	878.700	833.700
4 (269)	878.070	833.070
5 (248)	877.440	832.440
6 (227)	876.810	831.810
7 (206)	876.180	831.180
8 (185)	875.550	830.550
9 (164)	874.920	829.920
10(143)	874.290	829.290
11(122)	873.660	828.660
12(101)	873.030	828.030
13(80)	872.400	827.400
14 (59)	871.77	826.770
15 (38)	871.140	826.140
16 (17)	870.510	825.510

Cell 3

Channel	Transmit	Receive
1 (331)	879.930	834.930
2 (310)	879.300	834.300
3 (289)	878.670	833.670
4 (268)	878.040	833.040
5 (247)	877.410	832.410
6 (226)	876.780	831.780
7 (205)	876.150	831.150
8 (184)	875.520	830.520
9 (163)	874.890	829.890
10 (142)	874.260	829.260
11 (121)	873.630	828.630
12 (100)	873.000	828.000
13 (79)	872.370	827.370
14 (58)	871.740	826.740
15 (37)	871.110	826.110
16 (16)	870.480	825.480

Cell 4

Channel	Transmit	Receive
1 (330)	879.900	834.900
2 (309)	879.270	834.270
3 (288)	878.640	833.640
4 (267)	878.010	833.010
5 (246)	877.380	832.380
6 (225)	876.750	831.750
7 (204)	876.120	831.120
8 (183)	875.490	830.490
9 (162)	874.860	829.860
10 (141)	874.230	829.230
11 (120)	873.600	828.600
12 (99)	872.970	827.970
13 (78)	872.340	827.340
14 (57)	871.710	826.710
15 (36)	871.080	826.080
16 (15)	870.450	825.450

Cell 5

Channel	Transmit	Receive
1 (329)	879.870	834.870
2 (308)	879.240	834.240
3 (287)	878.610	833.610
4 (266)	877.980	832.980
5 (245)	877.350	832.350
6 (224)	876.720	831.720
7 (203)	876.090	831.090
8 (182)	875.460	830.460
9 (161)	874.830	829.830
10 (140)	874.200	829.200
11 (119)	873.570	828.570
12 (98)	872.940	827.940
13 (77)	872.310	827.310
14 (56)	871.680	826.680
15 (35)	871.050	826.050
16 (14)	870.420	825.420

CELL 6

Channel	Transmit	Receive
1 (328)	879.840	834.840
2 (307)	879.210	834.210
3 (286)	878.580	833.580
4 (265)	877.950	832.950
5 (244)	877.320	831.690
6 (223)	876.690	831.060
7 (202)	876.060	831.690
8 (202)	875.430	830.430
9 (160)	874.800	829.800
10 (139)	874.170	829.170
11 (118)	873.540	828.540
12 (97)	872.910	827.910
13 (76)	872.280	827.280
14 (55)	871.650	826.650
15 (34)	871.020	826.020
16 (13)	870.390	825.390

CEll 7

Channel	Transmit	Receive
1 (327)	879.810	834.810
2 (306)	879.180	834.180
3 (285)	878.550	833.550
4 (264)	877.920	832.920
5 (243)	877.290	832.290
6 (222)	876.660	831.660
7 (201)	876.030	831.030
8 (180)	875.400	830.400
9 (159)	874.770	829.770
10 (138)	874.140	829.140
11 (117)	873.510	828.510
12 (96)	872.880	827.880
13 (75)	872.250	827.250
14 (54)	871.620	826.620
15 (33)	870.990	825.990
16 (12)	870.360	825.360

Cell 8

Channel	Transmit	Receive
1 (326)	879.780	834.780
2 (305)	879.150	834.150
3 (284)	878.520	833.520
4 (263)	877.890	832.890
5 (242)	877.260	832.260
6 (221)	876.630	831.630
7 (200)	876.000	831.000
8 (179)	875.370	829.740
9 (158)	874.740	829.740
10 (137)	874.110	829.110
11 (116)	873.480	828.480
12 (95)	872.850	827.850
13 (74)	872.220	827.220
14 (53)	871.590	826.590
15 (32)	870.960	825.960
16 (11)	870.330	825.330

Cell 9

Channel	Transmit	Receive
1 (325)	879.750	834.750
2 (304)	879.120	834.120
3 (283)	878.490	833.490
4 (262)	877.860	832.860
5 (241)	877.230	832.230
6 (220)	876.600	831.600
7 (199)	875.970	830.970
8 (178)	875.340	830.340
9 (57)	874.710	829.710
10 (136)	874.080	829.080
11 (115)	873.450	828.450
12 (94)	872.820	827.820
13 (73)	872.190	827.190
14 (52)	871.560	826.560
15 (31)	870.930	825.930
16 (10)	870.300	825.300

Cell 10

Channel	Transmit	Receive
1 (324)	879.720	834.720
2 (303)	879.090	834.090
3 (282)	878.460	833.460
4 (261)	877.830	832.830
5 (240)	877.200	832.200
6 (219)	876.570	831.570
7 (198)	875.940	830.940
8 (177)	875.310	830.310
9 (156)	874.680	829.680
10 (135)	874.050	829.050
11 (114)	873.420	828.420
12 (93)	872.790	827.790
13 (72)	872.160	827.160
14 (51)	871.530	826.530
15 (30)	870.900	825.900
16 (9)	870.270	825.270

Cell 11

Channel	Transmit	Receive
1 (323)	879.690	834.690
2 (302)	879.060	834.060
3 (281)	878.430	833.430
4 (260)	877.800	832.800
5 (239)	877.170	832.170
6 (218)	876.540	831.540
7 (197)	875.910	830.910
8 (176)	875.280	829.280
9 (155)	874.650	829.650
10(134)	874.020	829.020
11(113)	873.390	828.390
12 (92)	872.760	827.760
13 (71)	872.130	827.130
14 (50)	871.500	826.500
15 (29)	870.870	825.870
16 (8)	870.240	825.240

Cell 12

Channel	Transmit	Receive
1 (322)	879.660	834.660
2 (301)	879.030	834.030
3 (280)	878.400	833.400
4 (259)	877.770	832.400
5 (238)	877.140	832.140
6 (217)	876.510	831.510
7 (196)	875.880	830.880
8 (175)	875.250	830.250
9 (154)	874.260	829.260
10(133)	873.990	828.990
11(112)	873.660	828.660
12 (91)	872.730	827.730
13 (70)	872.100	827.100
14 (49)	871.470	826.470
15 (28)	870.840	825.840
16 (7)	870.210	825.210

CELL 13

Channel	Transmit	Receive
1 (321)	879.630	834.630
2 (300)	879.000	834.000
3 (279)	878.370	833.370
4 (258)	877.740	832.740
5 (237)	877.110	832.110
6 (216)	876.480	831.480
7 (195)	875.850	830.850
8 (174)	875.220	830.220
9 (153)	874.590	829.590
10(132)	873.960	828.960
11(111)	873.330	828.330
12 (90)	872.700	827.700
13 (69)	872.070	827.070
14 (48)	871.440	826.440
15 (27)	870.810	825.810
16 (6)	870.180	825.180

Cell 14

Channel	Transmit	Receive
1 (320)	879.600	834.600
2 (299)	878.970	833.970
3 (278)	878.340	833.340
4 (257)	877.710	832.710
5 (236)	877.080	832.080
6 (215)	876.450	831.450
7 (194)	875.820	830.820
8 (173)	875.190	830.190
9 (152)	874.560	829.560
10(131)	873.930	828.930
11(110)	873.300	828.300
12 (89)	872.670	827.670
13 (68)	872.040	827.040
14 (47)	871.410	826.410
15 (26)	870.780	825.780
16 (5)	870.150	825.150

CELL 15

Channel	Transmit	Receive
1 (319)	879.570	834.570
2 (28)	878.940	833.940
3 (277)	878.310	833.310
4 (256)	877.680	832.680
5 (235)	877.050	832.050
6 (214)	876.420	831.420
7 (193)	875.790	830.790
8 (172)	875.160	830.160
9 (151)	874.530	829.530
10(130)	873.900	828.900
11(109)	873.270	828.270
12 (88)	872.640	827.640
13 (67)	872.010	827.010
14 (46)	871.380	826.380
15 (25)	870.750	825.750
16 (4)	870.120	825.120

CELL 16

Channel	Transmit	Receive
1 (318)	879.540	834.540
2 (297)	878.910	833.910
3 (276)	878.280	833.280
4 (255)	877.650	832.650
5 (234)	877.020	832.020
6 (213)	876.390	831.390
7 (192)	875.760	830.760
8 (171)	875.130	830.130
9 (150)	874.500	829.500
10(129)	873.870	828.879
11(108)	873.240	828.240
12 (87)	872.610	827.610
13 (66)	871.980	826.980
14 (45)	871.350	826.350
15 (24)	870.720	825.720
16 (3)	870.090	825.090

CELL 17

Channel	Transmit	Receive
1 (317)	879.510	834.510
2 (296)	878.880	833.880
3 (275)	878.250	833.250
4 (254)	877.620	832.620
5 (233)	876.990	831.990
6 (212)	876.360	831.360
7 (191)	875.730	830.730
8 (170)	875.100	830.100
9 (149)	874.470	829.470
10(128)	873.840	828.840
11(107)	873.210	828.210
12 (86)	872.580	827.580
13 (65)	871.950	826.950
14 (44)	871.320	826.320
15 (23)	870.690	825.690
16 (2)	870.060	825.060

CELL 18

Channel	Transmit	Receive
1 (316)	879.480	834.480
2 (295)	878.850	833.850
3 (274)	878.220	833.220
4 (250)	877.590	832.590
5 (253)	876.960	831.330
6(211)	876.330	831.330
7 (190)	875.700	830.700
8 (169)	875.070	830.070
9 (148)	874.440	829.440
10(127)	873.810	828.810
11(106)	873.180	828.180
12 (85)	872.550	827.550
13 (64)	871.920	826.920
14 (43)	871.290	826.290
15 (22)	870.660	825.660
16 (1)	870.030	825.030

CELL 19

Channel	Transmit	Receive
1 (315)	879.450	834.450
2 (295)	878.820	833.820
3 (273)	878.190	833.190
4 (252)	877.560	832.560
5 (231)	876.930	831.930
6 (210)	876.300	831.300
7 (189)	875.670	830.670
8 (168)	875.040	830.040
9 (147)	874.410	829.410
10(126)	873.780	828.780
11(105)	873.150	828.150
12 (84)	872.520	827.520
13 (63)	871.890	826.890
14 (42)	871.260	826.260
15 (21)	870.630	825.630

CELL 20

Channel	Transmit	Receive
1 (314)	879.420	834.420
2 (293(	878.790	833.790
3 (272)	878.160	833.160
4 (251)	877.530	832.530
5 (230)	876.900	831.900
6 (209)	876.270	831.270
7 (188)	875.640	830.640
8 (167)	875.010	830.010
9 (146)	874.380	829.380
10(125)	873.750	828.750
11(104)	873.120	828.120
12 (83)	872.490	827.490
13 (62)	871.860	826.860
14 (41)	871.230	826.230
15 (20)	870.600	825.600

CELL 21

Channel	Transmit	Receive
1 (313)	879.390	834.390
2 (292)	878.760	833.760
3 (271)	878.130	833.130
4 (250)	877.500	832.500
5 (229)	876.870	831.870
6 (208)	876.240	831.240
7 (187)	875.610	830.610
8 (166)	874.980	829.980
9 (145)	874.350	829.350
10(124)	873.720	828.720
11(103)	873.090	828.090
12 (82)	872.460	827.460
13 (61)	871.830	826.830
14 (40)	871.200	826.200
15 (19)	870.570	825.570

CELLULAR PHONE BAND B

*** Channel 1 is reserved for data

CELL 1

Channel	Transmit	Receive
1 (334)	880.020	835.020
2 (355)	880.650	835.650
3 (376)	881.280	836.280
4 (397)	881.910	836.910
5 (418)	882.540	837.540
6 (439)	883.170	838.170
7 (460)	883.800	838.800
8 (481)	884.430	839.430
9 (502)	885.060	840.060
10(523)	885.690	840.690
11(544)	886.320	841.320
12(565)	886.950	841.950
13(586)	887.580	842.580
14(607)	888.210	843.210
15(628)	888.840	843.840
16(649)	889.470	844.470

CELL 2

Channel	Transmit	Receive
1 (335)	880.050	835.050
2 (356)	880.680	835.680
3 (377)	881.310	836.310
4 (398)	881.940	836.310
5 (419)	882.570	837.570
6 (440)	883.200	838.200
7 (461)	883.830	838.830
8 (482)	884.460	884.460
9 (503)	885.090	840.090
10(524)	885.720	840.720
11(545)	886.350	841.350
12(566)	886.350	841.350
13(587)	887.610	842.610
14(608)	888.240	843.240
15(629)	888.870	843.870
16(650)	889.500	844.500

CELL 3

Channel	Transmit	Receive
1 (336)	880.080	835.080
2 (357)	880.710	835.710
3 (378)	881.340	836.340
4 (399)	881.970	836.970
5 (420)	882.600	837.600
6 (441)	883.230	838.230
7 (462)	883.860	838.860
8 (483)	884.490	839.490
9 (504)	885.120	840.120
10(525)	885.750	840.750
11(546)	886.380	841.380
12(567)	887.010	842.010
13(588)	887.640	842.640
14(609)	888.270	843.270
15(630)	888.900	843.900
16(651)	889.530	844.530

CELL 4

Channel	Transmit	Receive
1 (337)	880.110	835.110
2 (358)	880.740	835.740
3 (379)	881.370	836.370
4 (400)	882.000	837.000
5 (421)	882.630	837.630
6 (442)	883.260	838.260
7 (463)	883.890	838.890
8 (484)	884.520	839.520
9 (505)	885.150	840.150
10(526)	885.780	840.780
11(547)	886.410	841.410
12(568)	887.040	842.040
13(589)	887.670	842.670
14(610)	888.300	843.300
15(631)	888.930	843.930
16(652)	889.560	844.560

CELL 5

Channel	Transmit	Receive
1 (338)	880.140	835.140
2 (359)	880.770	835.770
3 (380)	881.400	836.400
4 (401)	882.030	837.030
5 (422)	882.660	837.660
6 (443)	883.290	838.290
7 (464)	883.920	838.920
8 (485)	884.550	839.550
9 (506)	885.180	840.180
10(527)	885.810	840.840
11(548)	886.440	841.440
12(569)	887.070	842.070
13(590)	887.700	842.700
14(611)	888.330	843.330
15(632)	888.960	843.960
16(653)	889.590	844.590

CELL 6

Channel	Transmit	Receive
1 (339)	880.170	835.170
2 (360)	880.800	835.800
3 (381)	881.430	836.430
4 (402)	882.060	837.060
5 (423)	882.690	837.690
6 (444)	883.320	838.320
7 (465)	883.950	838.950
8 (486)	884.580	839.580
9 (507)	885.210	840.210
10(528)	885.840	840.840
11(549)	886.470	841.470
12(570)	887.100	842.100
13(591)	887.730	842.730
14(612)	888.360	843.360
15(633)	888.990	843.990
16(654)	889.620	844.620

CELL 7

Channel	Transmit	Receive
1 (340)	880.200	835.200
2 (361)	880.830	835.830
3 (382)	881.460	836.460
4 (403)	882.090	837.090
5 (424)	882.720	837.720
6 (445)	883.350	838.350
7 (466)	883.980	838.980
8 (487)	884.610	839.610
9 (508)	885.240	840.240
10(529)	885.870	840.870
11(550)	886.500	841.500
12(571)	887.130	842.130
13(592)	887.760	842.760
14(613)	888.390	843.390
15(634)	889.020	844.020
16(655)	889.650	844.650

CELL 8

Channel	Transmit	Receive
1 (341)	880.230	835.230
2 (362)	880.860	835.860
3 (383)	881.490	836.490
4 (404)	882.120	837.120
5 (425)	882.750	837.750
6 (446)	883.380	838.380
7 (467)	884.010	839.010
8 (488)	884.640	839.640
9 (509)	885.270	840.270
10(530)	885.900	840.900
11(551)	886.530	841.530
12(572)	887.160	842.160
13(593)	887.790	842.790
14(614)	888.420	843.420
15(635)	889.050	844.050
16(656)	889.680	844.680

CELL 9

Channel	Transmit	Receive
1 (342)	880.260	835.260
2 (363)	880.890	835.890
3 (384)	881.520	836.520
4 (405)	882.150	837.150
5 (426)	882.780	837.780
6 (447)	883.410	838.410
7 (468)	884.040	839.040
8 (489)	884.670	839.670
9 (510)	885.300	840.300
10(531)	885.930	840.930
11(552)	886.560	841.560
12(573)	887.190	842.190
13(594)	887.820	842.820
14(615)	888.450	843.450
15(636)	889.080	844.080
16(657)	889.710	844.710

CELL 10

Channel	Transmit	Receive
1 (343)	880.290	835.290
2 (364)	880.920	835.920
3 (385)	881.550	836.550
4 (406)	882.180	837.180
5 (427)	882.810	837.810
6 (448)	883.440	838.440
7 (469)	884.070	839.070
8 (490)	884.700	839.700
9 (511)	885.330	840.330
10(532)	885.960	840.960
11(553)	886.590	841.590
12(574)	887.220	842.220
13(595)	887.850	842.850
14(616)	888.480	843.480
15(637)	889.110	844.110
16(658)	889.740	844.740

CELL 11

Channel	Transmit	Receive
1 (344)	880.320	835.320
2 (365)	880.950	835.950
3 (386)	881.580	836.580
4 (407)	882.210	837.210
5 (428)	882.840	837.840
6 (449)	883.470	838.470
7 (470)	884.100	839.100
8 (491)	884.730	839.730
9 (512)	885.360	840.360
10(533)	885.990	840.990
11(554)	886.620	841.620
12(575)	887.250	842.250
13(596)	887.880	842.880
14(617)	888.510	843.510
15(638)	889.140	844.140
16(659)	889.770	844.770

CELL 12

Channel	Transmit	Receive
1 (345)	880.350	835.350
2 (366)	880.980	835.980
3 (387)	881.610	836.610
4 (408)	882.240	837.240
5 (429)	882.870	837.870
6 (450)	883.500	838.500
7 (471)	884.130	839.130
8 (492)	884.760	839.760
9 (513)	885.390	840.390
10(534)	886.020	841.020
11(555)	886.650	841.650
12(576)	887.280	842.280
13(597)	887.910	842.910
14(618)	888.540	843.540
15(639)	889.170	844.170
16(660)	889.800	844.800

CELL 13

Channel	Transmit	Receive
1 (346)	880.380	835.380
2 (367)	881.010	836.010
3 (388)	881.640	836.640
4(409)	882.270	837.270
5 (430)	882.900	837.900
6 (451)	883.530	838.530
7 (472)	884.160	839.160
8 (493)	884.790	839.790
9 (514)	885.420	840.420
10(535)	886.050	841.050
11(556)	886.680	841.680
12(577)	887.310	842.310
13(598)	887.940	842.940
14(619)	888.570	843.570
15(640)	889.200	844.200
16(661)	889.830	844.830

CELL 14

Channel	Transmit	Receive
1 (347)	880.410	835.410
2 (368)	881.040	836.040
3 (389)	881.670	836.670
4 (410)	882.300	837.300
5 (431)	882.930	837.930
6 (452)	883.560	838.560
7 (473)	884.190	839.190
8 (494)	884.820	839.820
9 (515)	885.450	839.450
10(536)	886.080	840.080
11(557)	886.710	840.710
12(578)	887.340	842.340
13(599)	887.970	842.970
14(620)	888.600	843.600
15(641)	889.230	844.230
16(662)	889.860	844.860

CELL 15

Channel	Transmit	Receive
1 (348)	880.440	835.440
2 (369)	881.070	836.070
3 (390)	881.700	836.700
4 (411)	882.330	837.330
5 (432)	882.960	837.960
6 (453)	883.590	838.590
7 (474)	884.220	839.220
8 (495)	884.850	839.850
9 (516)	885.480	840.480
10(537)	886.110	841.110
11(558)	886.740	841.740
12(579)	887.370	842.370
13(600)	888.000	843.000
14(621)	888.630	843.630
15(642)	889.260	844.260
16(663)	889.890	844.890

CELL 16

Channel	Transmit	Receive
1 (349)	880.470	835.470
2 (370)	881.100	836.100
3 (391)	881.730	836.730
4 (412)	882.360	837.360
5 (433)	882.990	837.990
6 (454)	883.620	838.620
7 (475)	884.250	839.250
8 (496)	884.880	839.880
9 (517)	885.510	840.510
10(538)	886.140	841.140
11(559)	886.770	841.770
12(580)	887.400	842.400
13(601)	888.030	843.030
14(622)	888.660	843.660
15(643)	889.290	844.290
16(664)	889.920	844.920

CELL 17

Channel	Transmit	Receive
1 (350)	880.500	835.500
2 (371)	881.130	836.130
3 (392)	881.760	836.760
4 (413)	882.390	837.390
5 (434)	883.020	838.020
6 (455)	883.650	838.650
7 (476)	884.280	839.280
8 (497)	884.910	839.910
9 (518)	885.540	840.540
10(539)	886.170	841.170
11(560)	886.800	841.800
12(581)	887.430	842.430
13(602)	888.060	843.060
14(623)	888.690	843.690
15(644)	889.320	844.320
16(665)	889.950	844.950

CELL 18

Channel	Transmit	Receive
1 (351)	880.530	835.530
2 (372)	881.160	836.160
3 (393)	881.790	836.790
4 (414)	882.420	837.420
5 (435)	883.050	838.050
6 (456)	883.680	838.680
7 (477)	884.310	839.310
8 (498)	884.940	839.940
9 (519)	885.570	840.570
10(540)	886.200	841.200
11(561)	886.830	841.830
12(582)	887.460	842.460
13(603)	888.090	843.090
14(624)	888.720	843.720
15(645)	889.350	844.350
16(666)	889.980	844.980

CELL 19

Channel	Transmit	Receive
1 (352)	880.560	835.560
2 (373)	881.190	836.190
3 (394)	881.820	836.820
4 (415)	882.450	837.450
5 (436)	883.080	838.080
6 (457)	883.710	838.710
7 (478)	884.340	839.340
8 (499)	884.970	839.970
9 (520)	885.600	840.600
10(541)	886.230	841.230
11(562)	886.860	841.860
12(583)	887.490	842.490
13(604)	888.120	843.120
14(625)	888.750	843.750
15(646)	889.380	844.380

CELL 20

Channel	Receive	Transmit
1 (353)	880.590	835.590
2 (374)	881.220	836.220
3 (395)	881.850	836.850
4 (416)	882.480	837.480
5 (437)	883.110	838.110
6 (458)	883.740	838.740
7 (479)	884.370	839.370
8 (500)	885.000	840.000
9 (521)	885.630	840.630
10(542)	886.260	841.260
11(563)	8863890	841.890
12(584)	887.520	842.520
13(605)	888.150	843.150
14(626)	888.780	843.780
15(647)	889.410	844.410

CELL 21

Channel	Transmit	Receive
1 (354)	880.620	835.620
2 (375)	881.250	836.250
3 (396)	881.880	836.880
4 (417)	882.510	837.510
5 (438)	883.140	838.140
6 (459)	883.770	838.770
7 (480)	884.400	839.400
8 (501)	885.030	840.030
9 (522)	885.660	840.660
10(543)	886.290	841.290
11(564)	886.920	841.920
12(585)	887.550	842.550
13(606)	888.180	843.180
14(627)	888.810	843.810
15(648)	889.440	844.440

Dynaspek
PO BOX 564
Westmont, IL 60559
Phone # (708)-971-1585
Fax # (708)-971-5834

INVOICE

Page 1

Order # 1774
Date 7/30/93

Invoice # 1774
Date 7/30/93

Bill To
ROBERTS, L. WILLIAM
250 FOXGLOVE DRIVE #5
MOUNT STERLING KY 40353

Ship To
ROBERTS, L. WILLIAM
250 FOXGLOVE DRIVE #5
MOUNT STERLING KY 40353

P.O.Number	Terms	ShipDate	Via	F.O.B.	Sales Rep	Code
	CHEQUE #7548	7/30/93	USPS	WESTMONT	LAURA	

Ord	Shp	Part #	Description	Tax	Price	Amount
1	1	CTHG	CELLULAR TELEPHONE HACKERS GD		49.95	49.95

Dynaspek
PO BOX 564
Westmont, IL 60559
Phone # (708)-971-1585
Fax # (708)-971-5834

INVOICE

Order # 1774 Invoice # 1774

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Bill To
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250 FOXGLOVE DRIVE #5
MOUNT STERLING KY 40353

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P.O.Number	Terms	ShipDate	Via	F.O.B.	Sales Rep	Code
	CHEQUE #7548	7/30/93	USPS	WESTMONT	LAURA	

Ord	Shp	Part #	Description	Tax	Price	Amount
1	1	CTHG	CELLULAR TELEPHONE HACKERS GD		49.95	49.95

SubTotal $	49.95
Tax on 0.00 @ 0.000 % $	0.00
Freight $	4.00
Total $	53.95

SubTotal	$	49.95
Tax on 0.00 @ 0.000 %	$	0.00
Freight	$	4.00
Total	$	53.95